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To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and to improve the character of the service rendered to the public.

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RESTORATION OF AN ENGINEERS' CANCELLED LICENSE.

APPEAL TO THE SUPERVISING INSPECTOR—DECISION OF LOCAL INSPECTORS MODIFIED—A THREE MONTHS' SUSPENSION IN PLACE OF A TOTAL REVOCATION OF LICENSE.

STEAMBOAT INSPECTION SERVICE,
OFFICE OF SUPERVISING-INSPECTOR FIRST DISTRICT,
PORT OF SAN FRANCISCO, CAL., May 13th, 1901.

In the appeals (two) of P. H. Herlihy, April 19th, 1901, to the Supervising Inspector of the First District, from the decision of the local board for the District of San Francisco, which Board on March 22, 1901, revoked the chief engineer's license of the appellant for inattention, and neglect of duty, which consisted mainly of being absent from his post on the working platform in the engine room, while serving as chief engineer of the steamship City of Rio de Janeiro, as it appears from his own testimony, while entering this harbor February 22nd, 1901, during a dense fog, when that vessel struck on the reef near Fort Point, at 5:25 a. m. on that day, while going at half speed, about eight and one-half knots per hour, there about three knots over the bottom against a five or six knot ebb tide, rupturing her bottom or bilge plates on the starboard side to such an extent as to cause her forward holds to fill with water to a depth of about twenty-two feet in a few minutes. It is doubtful if any hull plates were ruptured as far aft as the boiler or engine compartments. Nevertheless the water soon obtained mastery there, driving the engineer and firemen from their stations. It is not unlikely that that water came through the open door in the bulkhead forward of the boiler room, dividing it from the bunkers.

One hundred and twenty-seven of the two hundred and five people on board of the City of Rio de Janeiro lost their lives by that disaster, among whom were the master, Captain Ward, her chief officer, and all her assistant engineers, the only surviving officers being the second and third mates and the appellant.

As much public interest has centered in the case of the appellant, I have given same long and careful consideration, and noted the arguments in his behalf in the brief filed by his attorney, H. W. Hutton, Esq. I desire to note in passing that he was convicted by the local board upon his own testimony given before said board during its enquiry as to the cause of the loss of the aforesaid steamship, he contending that said Board had no authority to revoke his license without giving him a trial. The department has since decided adversely to his views, as it did in similar cases before.

On March 28th, 1901, he appeared before said Board and demanded from it a duplicate of his license which was lost with the ship. That board refused his demand and referred the matter to me. I informed him that the local board was, under the circumstances, justified in their refusal. At the same time I informed the appellant that he would be heard by me any time on appeal from the decision of the local board, as provided for in section 4452 U. S. R. S.

The appellant again on April 5th, 1901, made a formal demand on the aforesaid local board for a certificate of his lost or destroyed license, which was refused him. On the same day he commenced an action in the U. S. Circuit Court to compel the local board to issue him a duplicate of his lost license, and at the same time asked that he be awarded damages in the sum of more than two thousand dollars.

On April 15th that case was heard by Judge Morrow, Edward J. Banning, Esq., assistant U. S. attorney, appearing for the local board, H. W. Hutton, Esq., appearing for the appellant. I understand Judge Morrow decided that the appellant should present his case to the U. S. Supervising Inspector of Steam Vessels, to whom Herlihy appealed as above stated on April 19, 1901.

The hearing of the case by the Supervising Inspector was by request of Attorney Hutton set for April 29th; the appellant then appeared and declined to submit the testimony taken before the local board as a part of the evidence in his case, and asked for a new trial and called several witnesses who testified as to his good character and ability as a chief engineer. He produced no evidence justifying his absence from the working platform of the engine room while the ship was entering port. Superintendent Hawxhurst, of the Pacific Mail S. S. Co., one of his witnesses, testified that it was the duty of the appellant to have been down in the engine room on that occasion.

Fox Sing, the leading Chinaman on watch in the fireroom at the time of the disaster, testified that there were one hundred and forty pounds pressure of steam on the boilers before starting the engines, and that Second Assistant Engineer Brady, in charge of the watch, ordered one hundred and fifty pounds of steam, which pressure was maintained throughout until the ship struck the reef.

It appears from the testimony that the City of Rio de Janeiro anchored on February 21st, 1901, at about 5:40 p. m., during a fog inside the San Francisco bar, in thirteen fathoms or water, with forty-five fathoms of chain to the water, and lay there until 4:35 the next morning; the fog, which had continued until a little after four o'clock, lifted so as to render visible from the ship the light on Point Bonita and the lights at the Cliff House, which bore respectively N. by E. and E. by N. $\frac{1}{2}$ N. magnetic, which placed her about one and one-eighth miles outside of a line drawn between said points and about three and three-eighths miles S. W. by W. from Fort Point Light. The pilot testified that at that time the tide was running ebb about three knots per hour.

State Pilot Jordan was on deck, Capt. Ward reached the bridge a moment later, and gave orders to Second Officer Coghlan, in charge of the watch, to notify the engineer to get ready for going ahead. Mr. Coghlan proceeded to the appellant's room and knocked at the door; getting no response, he tried to open it, but found it locked. He then went down into the engine room and gave the captain's order to Second Assistant Engineer Brady, in charge of the watch, who, about fifteen or twenty minutes later, gave notice that he was all ready.

Orders were then given by the pilot to get the anchor and when considerable of the chain was hove in, the fog closed in again, and the pilot gave orders to stop heaving. Capt. Ward, who meantime had gone below, returned to the deck; and the fog, having just then lifted a little, the anchor was

hove up and the ship proceeded under a slow bell a minute or two, long enough to get the anchor up clear of the forefoot. Meantime the fog again closed in and Capt. Ward, as testified to by the pilot, said, "let her go." The signal was then given to go ahead at half speed; and the course given, as testified to by the pilot was "N. E. until we got abreast of Point Bonita and from there N. E. $\frac{1}{2}$ N. a few minutes, and then N. E. by N. and finally N. N. E." The time of changing these courses varies with the time given by second officer Coghlan, who conveyed the pilot's orders to the quartermaster at the wheel, and who testified positively as follows:

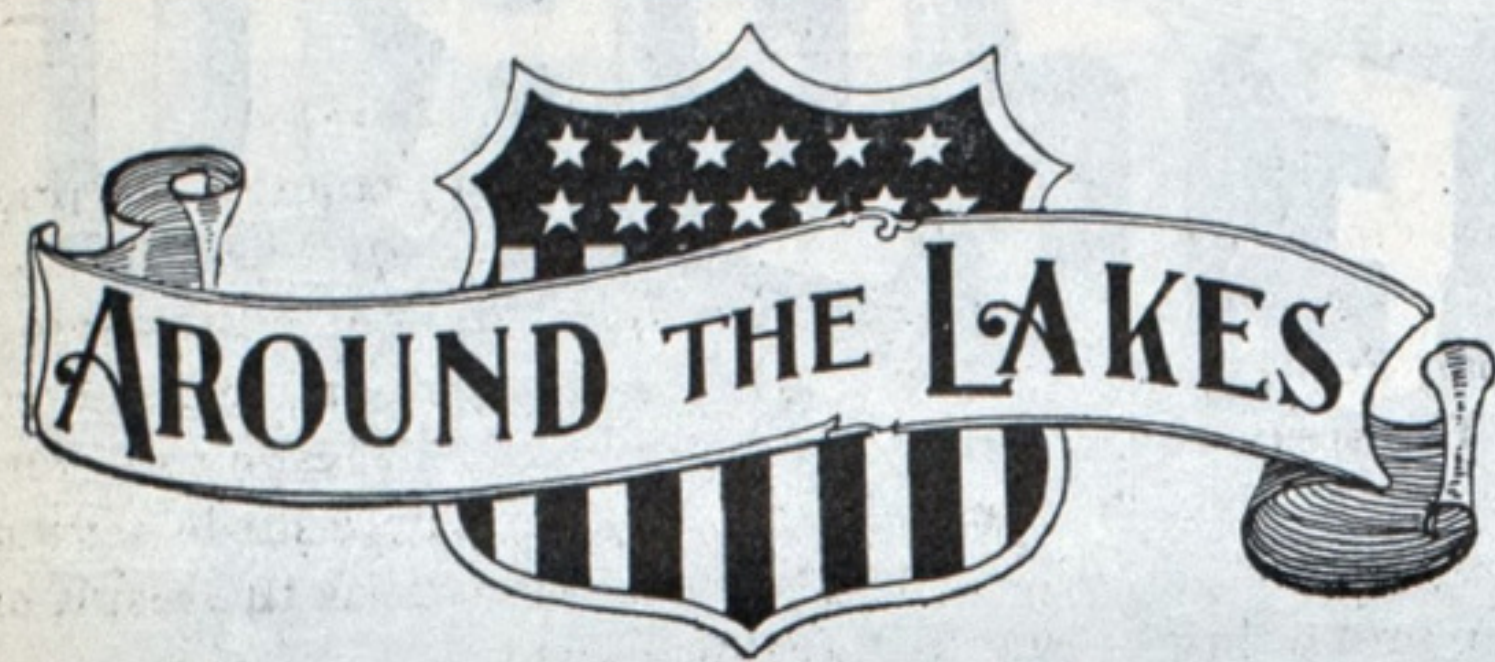
"When we started up, the course was made N. E. by the compass; that would be on the deviation N. E. a small eighth E. approximately. A point N. E. was almost neutral. We have had westerly and easterly, but the last was easterly. That course was held on till 5:19, which was the time by the wheel-house clock when the first alteration of the course was made and at the time the order was given to starboard half a point, making the course N. E. $\frac{1}{2}$ N. This was almost immediately followed by N. E. by N. probably with one minute intermission. This was again followed by starboard $\frac{1}{2}$ point, and then hard-a-starboard, and then she struck;" at that moment Surgeon O'Neil noted the time to be 5:25 a. m. by his clock, which he set San Francisco time by Capt. Ward's watch at noon the day before, at which time the captain also gave the time to Mr. Brander, whose watch stopped after he went overboard at 5:38 $\frac{1}{2}$. Mr. J. K. Carpenter testified before the local board that his watch, also set by the captain's watch the day before, stopped at 5:37; so that it could not have been more than twelve or thirteen minutes from the time the ship struck until she disappeared beneath the waters and was carried out by the tide into possibly fifty fathoms of water; her resting place has not yet been located.

(Continued in next issue.)

THE CANADIAN SHIPPING CASUALTIES ACT.

This Act, which has been passed at the present session of the Dominion Parliament, for the purpose of settling the law regarding inquiries and investigations into shipping casualties, was drawn up after consultation between the Canadian Marine Department and the British Board of Trade, and assimilates the Canadian law to that of Great Britain. In the event of a casualty occurring in Canadian waters or near to the Canadian coast to any Canadian or British registered vessel, the principal officer of customs, or other officer specially delegated, shall make an investigation and report to the Minister of Marine. Upon such report the minister, if he deem a formal investigation is necessary, can appoint an officer, of the Government, a County Court Judge, a Judge of the Superior Court of Quebec, or a Stipendiary Magistrate to be a commissioner for the holding of a court of inquiry; and such legal officer shall be assisted and advised on nautical points by one or more nautical or engineering officers, who shall be appointed for three years. The court cannot hold an investigation into any case already dealt with or into any case under investigation in the United Kingdom. The findings of the court shall be reported to the minister, and the certificate of any officer implicated shall have been issued by the British Board of Trade, or by any of the British possessions other than Canada, such certificate, together with a full report of the evidence and the findings of the court shall be forwarded to England or the Governor of such British possession. The Minister of Marine has power to order a rehearing of a case under certain conditions.

VESSELS from Copenhagen, entering or clearing in England during a voyage to the United States, are subject to tonnage due on entry at a port in the United States.



CLEVELAND.

Special Correspondence to The Marine Record.

Mr. M. A. Bradley, although not a betting man by any means, has placed \$1,000 stakes in favor of the steamer City of Erie, against a like amount put aside by Mr. John Pridgeon, Jr., of Detroit, in favor of the Tashmoo.

J. C. Gilchrist has added to his fleet the steamer A. A. Parker and consort B. W. Parker. The boats were owned by the Parkers, of Detroit. The price paid was not named. Mr. Gilchrist will take over the management of the boats at once.

The shore engineers of the Pittsburgh Steamship Co., Messrs. Hayes, Smith and Frazer, have about all of the work they can attend to these times in keeping the engines of the great fleet turning over, but they are doing it in excellent style.

Manager Newman is not saying very much derogatory to the boasted speed of the Tashmoo, nor is he splitting the wind with assertions about the power of the City of Erie, at the same time, it is generally conceded that the big boat will win and especially so if there is any wind or sea on.

The Detroit people who want to bet on the Tashmoo winning the race next Tuesday will have no trouble placing their money when they get here. A few bets were made this week, also money was sent to Detroit. There never was a pool of \$50,000 made up in the Perry-Payne building to back the Erie.

The executors of the late Capt. John W. Moore virtually closed up the estate this week. Recently the interests in three of the boats owned were sold to J. C. Gilchrist. This left but one boat, the J. W. Moore, which has been turned over to Drake & Bartow to handle. Capt. Richard Neville is the managing owner.

The City of Erie continues her regular trip on the route from Cleveland to Buffalo, and when Manager Newman was asked the other day if he didn't intend to have the Erie in drydock to have her bottom touched up, he replied that it wasn't necessary, that she could win just as she is. Well! there's nothing like having confidence.

The steel steamer Grecian, Capt. P. L. Millen, fetched up on the Middle Ground, Pelee Passage, on Tuesday. She is neaped 18 inches forward and a foot aft. Immediate assistance was sent to her and her cargo of iron ore was being jettisoned. On account of a heavy sea being on she is likely to be badly damaged before getting afloat again.

The following local meteorological observations are furnished by the office of the U. S. Weather Bureau for the week ending May 28: Prevailing wind direction during week, N. E.; highest velocity 42, N. E. on 24th. Mean temperature for week 56; highest temperature 77, on 24th; lowest 46, on 25th. Sunrise and sunset data, computed for local time at Cleveland: May 31, sun rises at 4:26, sets at 7:28; June 2nd, sun rises at 4:25, sets at 7:29; June 5th, sun rises at 4:24, sets at 7:31.

Much sympathy is expressed for the near relatives of the late Capt. Place and his wife who were lost on Saturday last through the sinking of the steamer Baltimore (formerly Escanaba) on Lake Huron while running into port for shelter. Louis Lafrinier the aged carpenter who had shipped in her to make some repairs during the trip was well known here, and although 84 years of age he was still handy with the tools. Messrs. P. H. Fleming & Co., her late owners, are having the beach patrolled in the hopes of bodies of the crew being washed ashore. Only two out of a crew of 15 were picked up alive.

With all the demand for steamers on account of the extra heavy traffic brought about through holding the Pan-American Exposition this summer at Buffalo and the increased passenger trade generally, it is a wonder that the two good old steamers Empire and Badger State are still laid up at Lorain. These boats recently underwent thorough repairs and overhauling, and surely ought to be able to turn over money in some trade. They have been well kept up and are good sound wooden boats that, with perhaps new

boilers would form the nucleus of a decent fleet. In any case the hulls would make good lumber barges.

Another block of 100,000 tons of ore was covered this week on the same terms that most of the season contracts have been made by United States Steel Corporation, (Pittsburgh Steamship Co.), viz., 80 cents. Offerings of tonnage are light at Lake Superior ports, but at Escanaba the supply is equal to the demand. Coal is moving freely at 40 cents to all the leading ports. Most of the vessels that will be ready to load this week are under charter. The feeling is steady and rates will probably hold at the present figures for some time. Vessel owners are at one in their expressed intention to hold coal rates to a fair paying basis, and say that the days when the commodity was carried gratuitously for ballast purposes are over.

CHICAGO.

Special Correspondence to The Marine Record.

The tug company will pay for the damage done to Rush street bridge by the steamer Merida.

Grain rates held at 1 3/4 cents on wheat with little chartering on Monday. Corn paid 1 1/2 cents to Buffalo.

The coast steamer Easton, purchased at Philadelphia for the Chicago-South Haven route, is due here the latter part of this week.

The steamer Boston, which was ashore near Cheboygan, will be repaired at the Milwaukee yards of the American Ship Building Co.

A shipper has placed 300,000 bushels of wheat at 1 3/4 cents to Buffalo chiefly with the regular line boats and that is still the going rate, with 1 1/2 cents on corn.

The accidents to the Northwestern and Northeastern have caused a sharp advance in insurance rates on vessels sailing for Europe. One company has advanced its rates from 7/8 to 2 per cent.

The Western Transit Liner Boston will be dry docked this week for survey and repairs, on account of her recent stranding in the Straits of Mackinac, she was not leaking on her arrival here, but bottom damage is anticipated, or rather known to be there.

Officers of the new steamer Puritan of the Graham & Morton line, have already been named and a portion of them are now at Toledo prepared to bring the boat out as soon as she is ready. Though good progress is being made, it is not now likely that she will be ready to go on her run between Chicago and Holland, Mich., before June 10.

The dates advertised in the shipping papers for the sailings of the boats of the Northwestern Steamship Co. from the other side read as follows: Northwestern from Hamburg May 21, Northman from Liverpool May 23, Northeastern from London May 29, and the Northtown from Hamburg May 31. It now looks as if their European agents G. W. Sheldon & Co. and H. C. Rover, of Hamburg, might as well change those dates to June, and then come nearer telling both consignees and shippers about what to expect.

Messrs. P. H. Fleming & Co. were very much grieved at the loss of life through the wreck of their steamer Baltimore, and on receipt of the news telegraphed the vicinity that every attention should be given to the two men who were rescued and to appoint a beach patrol to look after any bodies that might be washed ashore from the wreck. The steamer was worth about \$50,000 and was chartered ahead for the season. Capt. Place, her master, had recently purchased an interest in the vessel and his wife sailed with him as stewardess on the last fateful trip.

Nov. 12, last year, the car-ferry barges, No. 3 and No. 4, of the Lake Michigan line, in tow of the tug S. M. Fischer, sprung a leak and foundered. A heavy gale was blowing, and when signals of distress were shown from his consorts, Capt. Fred Johnson, of the tug Fischer, turned his boat about in the seas and took the crews off the barges, risking his own boat to do so. William Chambers and William Burkhardt, masters of the two barges, have petitioned Congressman Foss that he use his efforts to obtain a gold medal from Congress for Capt. Johnson for saving life under trying circumstances. Their petition has been circulated along the west shore of Lake Michigan and has found many signers. It is now in charge of Deputy Collector of Customs Smith at South Chicago.

A meeting was held in Boston on May 24 to make arrangements for a fair some time next October, to raise funds for rebuilding the old frigate Constitution, "Old Ironsides." This meeting was under the auspices of the Massachusetts State Society, United States Daughters of 1812.

DETROIT.

Special Correspondence to the Marine Record.

Joseph A. Marks, of J. A. Marks & Co., has \$500 to place on the Tashmoo, and Capt. Isaac Watts has \$250.

Capt. William Dunn, of the mail delivery boat Florence B., will resign this week to take charge of the steamer T. S. Faxton.

It is expected that all of 50,000,000 feet of lumber will be brought here this summer ex-lake; about half that amount is the usual season receipts.

President Uhler, of the Marine Engineers' Association, says he's satisfied with the result of the strike, and that the engineers are stronger than ever.

Col. Lydecker, Corps of Engineers, U. S. A., opened bids on Tuesday for dredging and removing obstructions between the head of St. Clair and the mouth of Detroit rivers.

Rep. Bland is going to try to push through his bill for another bridge from Detroit to Belle Isle. It has a referendum clause attached. Rep. Hunt says he will fight it.

The White Star Line has just issued a very attractive book, the corner of which bears the title, "Daylight Trips on the Detroit and St. Clair Rivers," and also a fine picture of the Tashmoo. The book contains much information in regard to the different points of interest and is filled with views taken of picturesque spots along the Detroit and St. Clair rivers.

Good work was done on the steamer Fannie C. Hart, of the Hart Line, on her trip with 200 passengers last Sunday from Escanaba to Menominee. A fire broke out in the boiler room and the passengers were getting very panicky, but the discipline of the boat was such that all fear was allayed and the fire drill stood in such good stead that the blaze was soon under control.

Capt. Meno, of the steamer City of Holland, which passed near the survivors of the steamer Baltimore on Lake Huron Friday, denied that he saw any men clinging to the wreckage after the Baltimore went to pieces. He kept the Holland four miles off Oscoda, and it was impossible to see any small object at any distance away. Capt. Meno says that Capt. Place and his wife succeeded in getting into a yawl-boat, but the yawl was subsequently picked up on the beach.

On the morning of June 3 the Tashmoo will sail for Cleveland. Manager Parker does not think she will be given a trial of speed before the race. Chief Engineer DuBois has been in consultation with the management on different occasions recently, and it is taken as significant that in the new booklet just issued by the Star Line people the speed of the Tashmoo is given at 24 miles an hour, followed by the further assertion that she is the fastest river boat in the world.

The Senate Committee on banks and corporations has put the quietus to the bill introduced by Rep. Hunt which provided that vessel property should be taxed where the principal business of the person or corporation owning the vessels is done. The bill as the Senate committee leaves it makes no change in the present law. This law allows vessel owners to claim an office in a township usually adjoining a lake port, and where the taxes are much lower than in the city. The vessels are taxed in such townships.

The Hanley Canada cup boat Cadillac is to be exactly the same length as the Wilds boat, building here in Detroit, 48 feet over all. She will be 27 feet 2 inches on the water line and 11 feet 2 inches beam. Her exact draft is not given, but it will be somewhere in the neighborhood of 30 inches, and she will carry something over 1,400 square feet of canvas. If a centerboard boat is to win, Detroit will have the two extremities. When she was built, the Genesee was a revelation with her wide beam, light draft and comparatively flat floors. In the Detroit, Wilds has carried the lightness of draft, width and flatness to the extreme. A bigger boat for her measurements, or a boat with flatter floors on much less draft would be hard to imagine.

Marine men generally will be surprised and pained to learn of the serious illness of Capt. Andrew Hackett, of Bois Blanc Island. Capt. Hackett has had charge of the light-house on the island for the last thirty-five years and is known and liked by nearly every captain on the lakes. He was never ill in his life up to a few weeks ago, when he was attacked by heart failure, and the disease has taken such a hold that his family and friends have given up hope of his recovery. He is fifty-five years old and was born on the island, his father being light-house keeper before him. He is married to the youngest sister of William McGregor, ex-M. P. of Windsor, a most hospitable and estimable lady, liked by all whom she has ever met.

On the side of the Detroit steamer Tashmoo, that is to race with the Cleveland steamer City of Erie, next Tuesday a \$750 is waiting to be covered by Cleveland money. An official of the company owning the Tashmoo, who went to Cleveland to find the \$50,000, said to be waiting in the Perry-Payne building for bets on the City of Erie, says the \$50,000 is a myth. He claims the Cleveland people are doing a lot of talking, but do not put up their money. The Tashmoo went down the river for a trial on Tuesday morning. It is just as well to remember that the Tashmoo is a 24 mile an hour boat and is built to sail around just such a craft as the City of Erie, she has finer lines, more power and in a different class to the lake. This is some of the talk I hear but it is not fair to prejudice the result.

Two large pieces of wreckage, supposed to be from the Baltimore, drifted ashore at Wenona beach on Monday. On one was lashed the body of a sailor. He was a man about 36 years old and measured 5 feet 8 inches in height. No papers were found on him by which he could be identified. He wore a gold hunting-case watch, and locket attached, in which were pictures of himself and a woman. On the right forearm was tattooed a picture of a girl leaning against a stile. The only member of the Baltimore's crew with this initial was Michael Bretheror, the mate, who lived in Cleveland. The wreck of the steamer Baltimore lays near Fish Point. The engine cylinders show three feet above water, but the boiler has been rolled off the wreck. All the upper works have been washed away and the wreck is an obstruction to navigation, laying as it does in 18 to 20 feet of water, in the course of steamers and about two miles off the beach.

DULUTH-SUPERIOR.

Special Correspondence to The Marine Record.

Captain Alex. McDougall, of the Minnesota state commission on pan-American exposition, has returned home after an absence of about 10 days, during which time he has visited New York, Buffalo and Collingwood.

The sinking of the Baltimore on Lake Huron on Saturday last with the loss of 13 lives is greatly regretted here. Capt. Place, as also his wife, who sailed with him, were both known and respected at this end of the route.

June 18 is Minnesota day and two special trains will leave the Twin Cities for Buffalo to arrive there for that occasion. The governor and his staff, the state editorial association, a battalion of militia and others will go down to Buffalo on the specials to be there Minnesota day.

We are now about three-quarters of a million tons behind in the ore shipments of last season and some brisk shipments will be necessary if the eleven million tons, to be sent forward from here, is carried away before the ore begins to freeze again. It is, of course, early enough to talk this way, as the ore is no more than running good after last winter's freeze, but it's the cold temperature that stops ore shipments just the same.

The first cargo of lumber direct for England to go from Ashland was shipped Saturday in the Canadian steamer Orion, which cleared for Montreal, with 500,000 feet of Norway deals. At Montreal the lumber will be transferred directly to another vessel for Liverpool, making but one transfer between the ports of Ashland and Liverpool. It is 1,322 miles from Ashland to Montreal and the Orion will make this distance in about two weeks allowing for all ordinary chances of detention.

As I have before stated in this column the present season will see great improvements in the handling and storing of coal at the head of the lakes. The Northwestern Fuel Co., the Great Northern Railway Co., as well as the Philadelphia & Reading Co. are now in shape for making most extensive docks, and, while the Northwestern Fuel Co. will have a 2,000,000 ton capacity on the front of Superior Bay the outlook is, that the Great Northern will have even larger and greater facilities for handling and storage.

The crew of the steamer John M. Nichol were called upon to fight fire on their boat on the trip up Lake Superior last Sunday. Shortly before reaching Houghton fire broke out in the oil room. It was blazing fiercely among the oils and was fanned by the strong wind, but the crew, by great effort put out the blaze. There was a heavy sea running which made the work of fighting fire extra hazardous. Carpenters were engaged to repair the damage to wood work. This is the usual oil room blaze so common on the lakes, and yet, with the scores of casualties on record the oil rooms are not protected as they should be. A small detail like this, involving, as it often does, the safety of ship and cargo should

be looked after more closely, if only by the underwriters inspectors or surveyors.

Word comes from Ashland that C. Culligan, the Alpena, Mich., lumberman, has sold to the Weyerhaeuser interests 330,000,000 feet of pine in Lake county. This timber is located in the midst of some owned by other head of the lake owners, including the Nester estate and the Split Rock Lumber Co. The price is said to be \$4 a thousand. It is not known what disposition the Weyerhaeusers will make of the new purchase. There is no railroad into the timber of this section, except that of the Split Rock Lumber Co. which operates to the lake shore, and it is possible that the timber will be held until a road is built into the district in the interest of the other large timber owners before it is sent to mill. If it is cut now it will be towed to Duluth, and then loaded on to cars, unless the logs should be cut on contract at the Ashland mills. A few years ago the same timber would only have brought about \$1.50 a thousand.

BUFFALO.

Special Correspondence to The Marine Record.

Traffic on the Erie canal is quite brisk, both ways.

The Empire State, which was beached near Brockville in a sinking condition has reached Kingston under her own steam.

The steamer Ossian Bedell, built for and named in honor of that Grand Island resident, has been placed in service. The boat was built by the Buffalo Drydock Co., and made a good showing on her initial trips.

The steamer Northeastern will be placed in dry dock here for bottom repairs after fetching up on Ballard's Reef. This little craft is supposed to leave London on the 29th May, according to the advertised list of sailings, but she won't.

In the Tashmoo-City of Erie race over a 95½ mile course, it ought to take the Tashmoo something less than 4 hours if she is the 24 mile boat that it is claimed she is, accordingly, leaving Cleveland at 9:30 a. m. she should have the stake boat abeam at 1:30 p. m., Tuesday, June 4.

There is considerable interest manifested here in connection with the City of Erie-Tashmoo race to take place on Tuesday next and a large crowd of people will be on hand to witness the wind-up. H. S. Fisher, local manager of the Cleveland & Buffalo Transit Co., wired a Detroit man on Tuesday that he was ready to place from \$500 to \$1,000 on the steamer City of Erie.

While coal shipments are light and 40 cents is the quoted rate to Lakes Michigan or Superior, there is no doubt but that some 30 cent coal has been placed to Duluth, though vessels have changed ports rather than accept anything less than 40 cents, Gladstone and Toledo 30 cents. Such ports as Racine and Sheboygan no longer want to pay the 10 cents extra, as they say the depth of water and discharging facilities are now as good there as elsewhere.

While grain cargoes are being handled here in the most expeditious manner possible there is the same old complaint of shoal water and to the extent that large vessels will soon begin to give the port a bad name. Ever since the grounding of the Wilkesbarre on her maiden trip at the opening of navigation we have had a sign stuck up labeling this an unsafe port, at least that is really what a vessel laying aground and unable to reach her elevator means.

The Marine Engineers' Association is now after the Rutland Line boats, and Mr. William Wise, shore engineer of the fleet, had to bring the Langdon here to load a general cargo for Chicago. As the boats get down to Ogdensburg the former engineers are persuaded to quit until the Association's demands are complied with. There are some good, loyal old engineers in the line, who will have to get at logheads with the owners, but they have no choice left.

Owing to the prevalence of smallpox along the lakes and the possibility of its spread through the shipping, it has been deemed expedient by the Marine Hospital Service Bureau at Washington to vaccinate seamen on all vessels sailing from this port. The same will be made compulsory at all other ports. The management of all passenger-carrying steamers are especially requested to arrange for the inspection and vaccination of their crews, by calling at the local Marine Hospital office in the Coal & Iron Exchange Building, where Dr. Eugene Wasdin will make suitable appointments to inspect, and, if found necessary, to vaccinate the men. Dr. Wasdin declares that in this Exposition year, when great crowds of people will be flocking to Buffalo, the greatest precaution should be taken to guard against contagious diseases, and he desires to emphasize the suggestions made above.

FLOTSAM, JETSAM AND LAGAN.

She: "How do you know that is a bargain-counter bathing suit she is wearing?" He: "By the way it is cut down."—Ex.

Charles Buckel, San Francisco, has patented a life-saving boat, and Donald M. Hastings, of the same port, an anchor.

The steamer Northwestern, bound from Chicago to Liverpool, is still further delayed at Montreal, where she is having a new plate put on. The plate was dented as the result of her grounding in the St. Lawrence river.

The side-wheel steamer Pearl, of the Crystal Beach line, which has been in the Buffalo drydock for extensive overhauling and repairs, is now in proper shape to enter upon her season's work, she was built at Detroit in 1875 and has a gross tonnage of 551.

Evidently the shores of Lake Superior are averse to being frequented by the Frenchified-named little passenger steamers Bon Voyage and Bon Ami sailing out of Duluth. The Bon Voyage piled herself up a burning wreck on the south shore, and the Bon Ami has been making a quarrying machine of herself on the rocks of the north shore near Duluth, and both casualties inside of a couple of weeks.

The names of those lost by the wreck of the Baltimore on Lake Huron are: Capt. H. M. Place, master; Mrs. H. M. Place, stewardess; Michael Brethen, first mate; John Dolders, second steward; Edward Owen, wheelman; C. W. Sears, wheelman; George W. Scott, watchman; P. Marcoux, chief engineer; William Barket, fireman; P. Kruger, fireman; August Anderson, deck hand. The second engineer and a deck hand were picked up.

Apropos of the degree marking on the proposed new compass card. The story is loaded on to an Irishman who, when he wanted to ship was asked if he could steer a good trick at the wheel. "Yis," replied Mike, "Shure I could shteer trew de eye of a muskeeter," shortly after leaving port it came Mike's turn to relieve the wheel, when the officer of the watch soon noticed that her wake was forming all sorts of geometrical figures, turning to Mike he gruffly ordered him to keep her straight, "shterate it is yer honner," said Mike. Finding no improvement, the mate says, "by the way, you're the man that said he could steer through the eye of a mosquito, aint you?" "Yis," says Mike, I am," as he hove, pulled and struggled at the wheel, "but whisht awhile will ye, shure I'm just after hunting for the muskeeter." Another hand was called to relieve the wheel, and who should it be, no less than Mike's chum, he was given the course, the ship steadied, and he was told to keep her there, but with even more labor expended, there was no betterment in the steering, and he was asked plainly if he could steer. "Deed an it's me that can," he replied, "divil the man aboard can shteer fashter than meself, but she kapes dodging and dodging pasht the little black marks all the time, and me afther her as shmart as I can, so I be."

COST OF A NEW YORK STATE SHIP CANAL.

The way the Journal would take the largest lake steamers to the ocean is by means of a ship canal by way of Lake Ontario and the Mohawk Valley at a cost of \$200,000,000. The Journal is modest in its figures. It has been shown already that a 14-foot canal, for barges, would cost close to \$100,000,000. The Journal can hardly expect that depth to be doubled for another hundred millions. "Estimated to cost \$200,000,000" is about as reliable as the Canadian expectations so rudely shattered by the grounding of the Northwestern in the St. Lawrence. Something more than the iridescent dream of the pyrotechnic Ingalls is this of a ship canal to take the largest lake vessels across New York state. It is an opalescent dream, as pretty as a plaster and paint palace at a show, and as unsubstantial.—Buffalo News.

It is not a question of what the Journal can expect. The Journal does not profess to be an engineering expert. It merely accepts the statement of the government commission which has reported that a twenty-foot ship canal across the State of New York by the Ontario and Mohawk route can be built for about \$200,000,000, and a thirty-foot one for a little less than \$300,000,000.—New York Journal.

THE attention of our readers, among the practical sailing community, is called to the change of fog signals at Detour as printed in another column of this issue. The working of this innovation will be watched with more or less interest as it is certainly forcing the action of those in charge of vessels and may at times influence them against their own judgment. This piloting in fog by the aid of sound alone is not as good in practice as it is in print, or theory. Of course it is optional whether a pilot will accept the risk or not.

SLOOP THAT SAILED AROUND THE WORLD AT THE EXPOSITION.

Capt. Joshua Slocum, and his famous sloop *Spray*, in which the daring Yankee sailor cruised around the world, are at the Pan-American Exposition. The noble sloop rides the waters of Park Lake, and is an object of great curiosity to all Exposition visitors.

The *Spray* was brought from Brooklyn to Buffalo through the rivers and the Erie canal. At every bridge and landing along the route the skipper and his sloop were given an ovation.

Capt. Slocum and the *Spray* will be at the Exposition during the entire season.

From boyhood Joshua Slocum has followed the sea. In his time he has commanded some of the largest sailing craft, and in them traversed all the marine routes. He came to know the sea like a well-thumbed book, and to regard it as more naturally his home than the land. Through misfortune he lost his all, but was still as fond as ever of ocean life. The idea of sailing around the world came to him, and he at once began the construction of a boat for the purpose with his own hands, using for a model an old sloop which had apparently passed its days of usefulness. The sloop was 36 feet 9 inches over all, 14 feet 2 inches hold, her burden being 9 tons net and 12½ tons gross. He named this craft the *Spray*. Capt. Slocum sailed from Boston on April 24, 1895, and his voyage around the world consumed three years and two months. He was too poor to buy a chronometer, and in lieu of this he took along an old tin clock, one hand of which was missing, but he was rarely at fault in his longitude. After a voyage attended with many unusual incidents the sloop on June 27th, 1898, cast anchor at the moorings she had left on her remarkable voyage.

BUFFALO AND TORONTO WEATHER FORECASTS.

A weather forecast is issued from Buffalo daily, covering practically the same territory as that covered by the weather bureau of this city. The forecast from the former office is, as a rule, more accurate than that of the Toronto bureau. In the probabilities issued by the two bureaus for Sunday, for instance, the Buffalo office seemed to hit it right, while the Toronto office was considerably off color. A comparison of the two bulletins will be of interest:

Buffalo: Weather forecast for Buffalo and vicinity—Partly cloudy weather to-night and Sunday; continued cool, with possibly light frost in exposed places to-night; brisk north-west winds. Conditions favor generally fair weather to Monday at least, with continued cool conditions, and may cause frost Sunday morning in exposed places and away from the influence of the lakes.

Toronto: The temperature will be higher Sunday, and a period of fair weather may be looked for; winds northerly and northwesterly will blow to-day, but the day will be fair.

There is no doubt as to which of these forecasts is the more accurate. The condition upon which they were based were known alike to both bureaus. If there is anything like scientific accuracy in forecasting the weather, there should not be such a wide divergence between these two bulletins.—The Toronto World.

EASTERN FREIGHTS.

Messrs. Funch, Edye & Co., New York, report the condition of the Eastern freight market as follows:

The amount of tonnage chartered for grain during the past week reflects the continued depressed state of the market, and shippers do not seem able to effect new business under the existing conditions of the grain market. A prompt steamer has been obliged to accept 18½¢ to 20¢ for picked ports and 25¢ for Hamburg, which is the lowest charter effected for some time. There is little or no inquiry for tonnage from the Gulf ports, and what steamers are being chartered are chiefly to fulfill old commitments for phosphate, oil cake, etc. Some further business has been done in coal from this coast to the Mediterranean on the basis of 12s to 12s 6d per ton. There is a better inquiry for coal tonnage to load for the Brazils and River Plate, for which direction two steamers have already been taken. In all directions, however, the demand is of a limited nature, and until grain commences to move more freely, we fear there is little chance of an improvement in freights.

The business in sail tonnage during the past week has been too insignificant to warrant any change in rates, or to permit us to form any idea in regard to the movement of the market in the near future.

NAVAL COURT MARTIAL SENTENCE VOID.

Eighty-nine officers and seamen, formerly of the U. S. Navy, now of the merchant service, are suing in the Court of Claims for pay of which they have been deprived by sentence of court-martial and other action of the Judge-Advocate-General of the Navy, who is merely a Lieutenant Commander and without professional legal experience outside of his naval service. Their attorney is George F. Ormsby, of Washington, D. C., a graduate of the U. S. Naval Academy and naval Judge-Advocate. The nautical experience of a commissioned officer of the navy introduced into the solution of a recent intricate problem before the Court of Claims has enabled their counsel to win for them the only case in which that court has ever adjudged void any sentence of the many Army and Navy court-martial cases before it, and the only case in the history of the country in which a naval sentence has been set aside by any civil tribunal.

NORWEGIANS DISCOUNT CANADIANS.

It is noteworthy that the coal trade between Cape Breton and Montreal is carried on almost exclusively by Norwegian steamers, to the exclusion of Canadian and English vessels. This is due almost entirely, it is stated, to the low rates of insurance charged by the Norwegian companies, in which these coal boats are insured, as compared with that charged by the Canadian and English companies. They have had

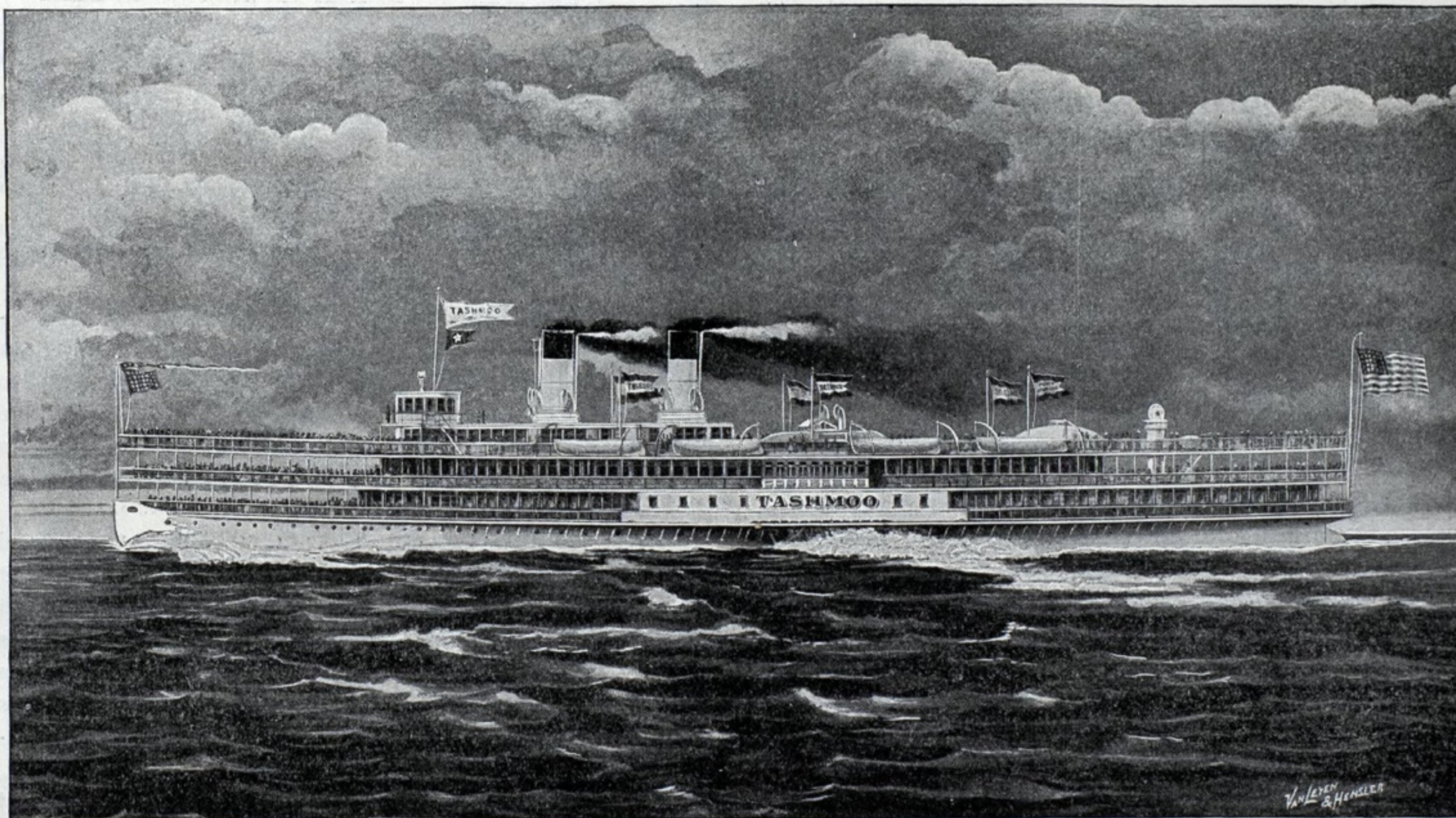
NOTES.

THE H. W. JOHNS MFG. CO. recently secured a contract for covering all the new work installed in the plant of the St. Regis Paper Co., Watertown, N. Y., in which asbestos fire felt covering was used, and they have also secured a contract for covering the new boilers installed in the Iron Steamboat Co.'s boats, Columbia, Sirius and Taurus, asbestocel sheets and asbestos cement being used. This company is getting up a neat little pamphlet on asbestocel pipe covering, sheets and paper and it is expected to be ready very shortly. One of these pamphlets can be had by addressing The H. W. Johns Mfg. Co., 100 William St., New York.

SEVENTY-TWO recruits for the navy, enlisted in Omaha, Neb., left that city on May 12 for San Francisco to be assigned to the training ship *Pensacola*. The naval recruiting station for Omaha opened May 5 last, in charge of Dr. Crandall and Lieutenant Blamer, U. S. N. For two days, on account of bad weather, few applicants presented themselves for enlistment. Since then, however, the officers and their clerks did a rushing business, and on May 12, when the offices opened, there were fully 75 young men in line, with more coming every minute. Of the young men who enlisted at Omaha, the youngest was 14 and the oldest 34 years of age. The average was about 17 years.

POLLOCK RIP light-ship No. 73 was launched at Baltimore, Md., May 18. She is constructed of steel, and has a length

THE GREAT RACE TO BE RUN ON LAKE ERIE JUNE 4, BETWEEN



White Star Line steel steamer *Tashmoo*, built at the Wyandotte yards of the American Ship Building Co., 1899; launched Dec. 31st, 1899. Hull dimensions, 320 feet in length and 70 feet extreme width. Engines, inclined triple-expansion with cylinders 33½", 51" and 82"; stroke, 72 inches. Steam is supplied by seven boilers 11 feet in diameter and 11 feet long, allowed a working pressure of 170 pounds. Licensed to carry 3,000 passengers.

considerable experience in this trade, and they discount considerably the reputed dangers of the route. It looks as though a conspiracy has been hatched against this particular trade by British underwriters, but the Norwegian underwriters, who have had a large experience, are quite willing to underwrite risks on vessels carrying coal from Cape Breton to Montreal. Mr. Cookson, of the Dominion Coal Co. which charters these vessels, admits that the insurance is much less. A shipping authority states that there was another reason still. Owing to the low wages the Norwegian sailors receive, and the small cost of living, the ships are cheaper to run. This, he said, was perhaps a small item, but in a large fleet, making many trips in a year, it totaled up a respectable saving in a year.

THE *Sirene*, a French submarine boat of the Narvel type, but not quite so large, was launched at Cherbourg on May 4. She is 111 feet long, 11 feet beam, and 106 tons displacement, and she draws 5 feet of water when afloat. Her speed is calculated at 12 knots with a triple expansion vertical engine of 217 horse-power. The *Sirene*, which when finished will cost about \$160,000, has four torpedo launching gears. At Havre on the same day the seagoing torpedo boat *Mistral*, which belongs to the Sirocco type, was launched. She is 147 feet 8 inches long, 15 feet 6 inches in beam, and has engines of 4,200 indicated horse-power. Her nominal speed is 30 knots.

of 128 feet over all and 112 feet between perpendiculars. The beam is 28½ feet and the depth of hold 14 feet 10½ inches. The ship will have fore and aft compound engines to enable her to sail under her own steam if she breaks from her anchorage. Electricity will be used to light the twin lamps at the mast-heads. The vessel will be equipped with an automatic riding windlass, to take up slack and let out the cable chain during a blow, and will have a fog-bell and steam siren. Heavy bilge keels have been built in the hull to prevent the ship from rolling.

THE *Lutine*, a 32-gun frigate in the British Navy, sailed from Yarmouth Roads for Hamburg on Oct. 9, 1799, carrying a large amount of treasure, but, striking a sandbank during a gale, was lost between the islands of Vlieland and Terschelling, lying off one of the entrances to the Zuyder Zee. Salvaging work has been carried on from time to time at the *Lutine* for nearly a century, and out of the treasure originally shipped, calculated to have amounted at least to \$2,185,335, as much as \$504,120 has actually been recovered. Five different salvage operations in all have been carried out with varying success, but resulting in that very respectable total, to which it is hoped to add, as the result of the findings of another expedition now being organized. The wreck, the after part of which is broken up, is lying on the clay at a depth of 50 feet below mean sea level, and at the present time a depth of 35 feet of sand has to be cleared away in order to uncover the clay.—Army and Navy Journal.

GOLIATH AND GANTRY CRANES.

The essential difference between the goliath and the gantry crane, as the terms are understood in Great Britain, is that the first carries a crab on the horizontal beams, the second a jib crane. That distinction may not appear to be of much importance, yet it widely differentiates the functions of the two types. The term goliath crane in Great Britain denotes but one type—that in which a bridge, supported on tall end-framings, carries either a crab or a trolley. Though sometimes fixed, it far more frequently is portable. But the American gantry cranes correspond in their general features with the British goliaths, since they also have the end framings, supporting a bridge, along which a trolley travels. In America and on the continent they are also termed bridge cranes; in Germany, portal cranes.

True, gantry cranes are chiefly limited to wharf work, and some classes of erecting in which it is necessary that the range of hoisting shall cover an area larger than the span of the gantry. The crane jib extends beyond the span and lifts from, and lowers into, ships' holds. It combines, therefore, in one, the most valuable features of the traveller, and of the jib crane. The type is mostly operated by steam, but in recent years electricity also has been applied. The steam gantry crane consists of a crane superstructure, usually fixed on the beams of a goliath framing, though sometimes made to travel on this. The crane itself differs in no detail from

which this kind of crane is applied, and to the numerous conditions under which they are operated.—Joseph Horner, in *Cassier's Magazine* for June.

WHEN NIAGARA FALLS ARE DRY.

No illusions as to the ultimate destiny of Niagara Falls are entertained by *The Electric Review*, and not only does it believe, with most people who have given serious and practical consideration to the question whether the United States and Canada can afford to maintain the cataract as a spectacle, that the utilization of the power available there will continue until no water is left to run over the precipice, but it says so boldly and does not talk nonsense about "inappreciable" differences in the amount of water to make the plunge as one company after another diverts big fractions of it into underground channels. Already the town by the falls, once a village of hotels and curio shops, with no industries except those related to the exploitation of sightseers, has grown to an important manufacturing city, and a discussion which is not likely to remain facetious long has begun, as to whether Niagara Falls is a suburb of Buffalo or Buffalo a suburb of Niagara Falls.

The river is a big one, however, and the cataract will be an impressive spectacle for many a year to come. At present some half a million horse-power has been or soon will be developed, and as yet neither the beauty nor the magnifi-

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD.)

Apportionment of Salvage Among Tugs.—In apportioning such award among the tugs, there will be kept in view; (a) Their time of arrival; (b) their value, size, and power; (c) their position, and the presumptive effectiveness of their services; (d) their aid in rescuing persons from the fire or the water; and (e) their remaining by, as requested, after the principal service had been performed. *The Kaiser Wilhelm Der Grosse*, 106 Fed. Rep. (U. S.) 963.

Agreement for Compensation by the Day for Salvage Services Enforced.—A contract by one party to pay at all events, and by the other to receive a fixed or deserved compensation for salvage services, is as conclusive and enforceable as any valid contract. The burden of establishing such an agreement by a fair preponderance of evidence is upon the owners or claimants of the vessel or cargo who allege it. *Elphicke et al. vs. White Line Towing Co.*, 106 Fed. Rep. (U. S.) 945.

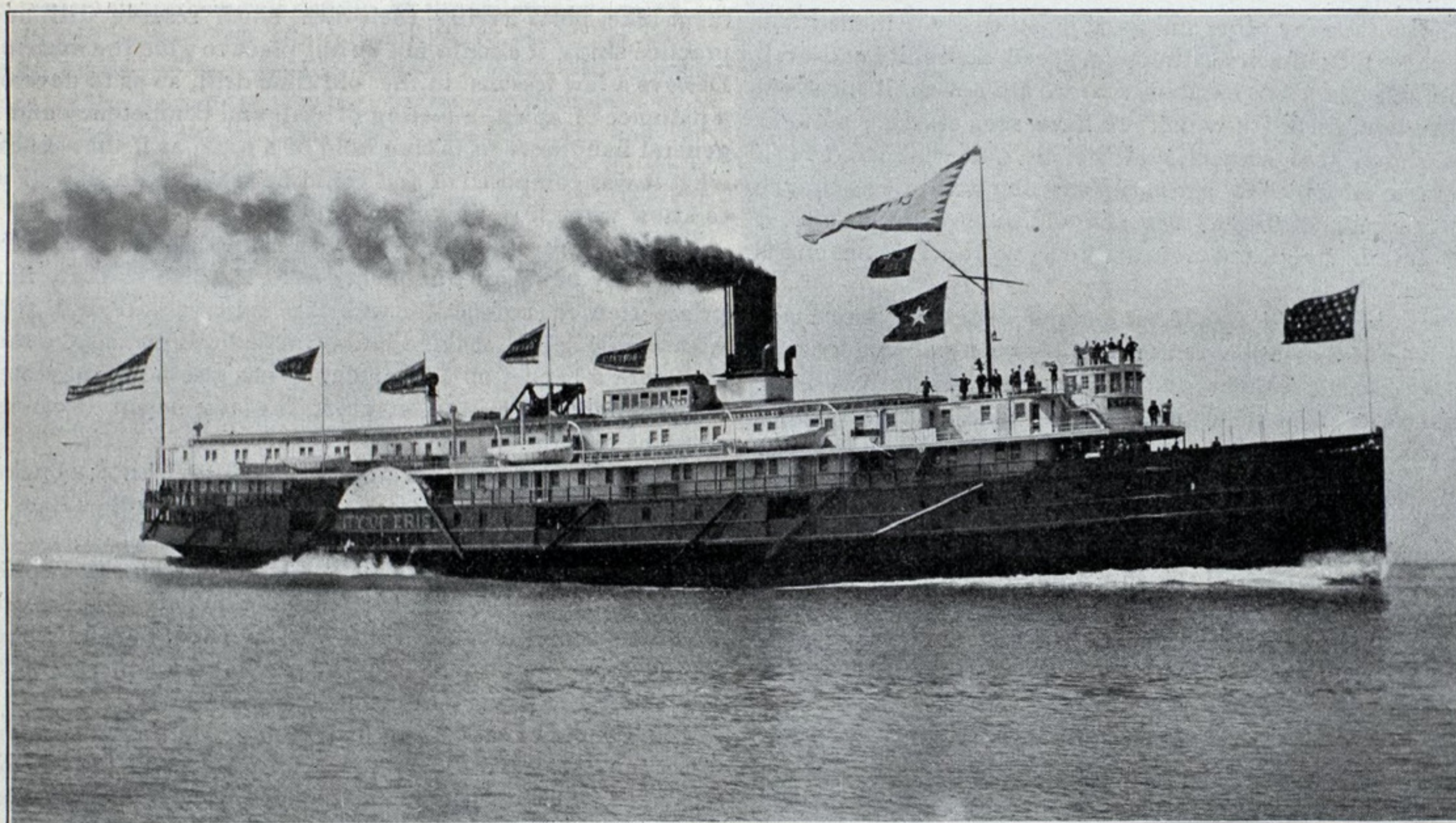
Salvage—Amount of Compensation—Rule for Determining.—The admiralty law does not contain any scale by which to determine on a percentage basis the amount earned by salvors, but the rule should be to award such a sum as will give a moderately liberal compensation for the services rendered, considering the merit of the service, the value of the property saved, and all the other facts and circumstances appearing in the particular case. *The Elm Branch*, 106 Fed. Rep. (U. S.) 952.

Liability of Tug—Injury to Tow.—Where the masts of a steamer in tow were evidently very high, and the captain of a tug, when twice requested to come up at low tide, with the vessel under the Brooklyn Bridge, had refused to do so, but took the vessel under the bridge at the top of the tide, having been informed that the masts were about 134 feet high, and believing the bridge to be 135 feet above mean high water, leaving only about a foot for contingencies, he assumed the risk of the uncertainty as to the exact height of the masts, and that, together with the fact that in warm weather the bridge drops from expansion of the steel cables, and that it varies with the loading, and that if from any cause the course of the vessel is forced to one side or the other from the center of the bridge, the bridge itself at the point of passage is lower, it rendered the owner of the tug liable for the breaking of the masts of the vessel in attempting to tow her under the bridge. *McMillan vs. Moran*, 107 Fed. Rep. (U. S.) 149.

Collision—Steamer at Pier and Tow.—An ocean steamer was attempting to make her dock in the East river in the ebb tide. The bow of the steamer was made fast to the upper corner of pier 29, her stern swinging down, and just clearing the upper corner of pier 28. Her stern was from 15 to 20 feet from the pier. A tug with a tow was coming up the river, and the tow struck the steamer on her port bow. The tug was not navigating in mid-stream, as the statute required, though nothing prevented her going in mid-river. She made no serious attempt to go to the right, as a tug with a tow just behind her did, though there was abundant time and opportunity for her to do so; nor did she stop and back in time; as she might have done had she not wished to go out into the river in her proper place. Held, that the collision was the fault of the tug. As the steamer had no reason to apprehend that vessels coming up from below against the tide, in plain sight of her, would run into her without cause, and until a few moments before collision had a right to assume that the tug would stop her headway, or go to the eastward of her, it was not contributory negligence to fail to reverse, which would have involved running into the pier with greater damage, and brought the bow of the steamer against the tow with greater force. *The William E. Ferguson*, 107 Fed. Rep. (U. S.) 155.

Cargo Damages—Liability of Shipowners.—A cargo of hides and similar articles shipped from South American ports to New York was found at the conclusion of an unusually long voyage, during warm weather, to be seriously damaged from decay. The bills of lading recited that the cargo was received in apparent good order and condition. The cargo owners alleged that the damage was caused by sea water entering the ship through some defect or unfitness or by want of proper care, while the defence was that the injury resulted from sweating, heat, or natural decay, or latent defects or dampness existing prior to shipment. The voyage was without storms or unusual weather. Held, upon a consideration of all the evidence, that there was no damage by sea water through any leaks or imperfection of the ship, which was shown to be in good condition and thoroughly equipped for the removal of any accumulation of water in the bilges, which nothing in the circumstances of the voyage rendered excessive; that the damage was due either to an excess of moisture in the cargo before shipment, which produced the decay during the long voyage, or to an accumulation of water in the bilges, because of their not having been given proper attention by reason of the sickness and death of three of the engineers from yellow fever during the voyage, in which case the failure to use the pumps was a fault in the management of the vessel, for which the owners were exempted from liability by section 3 of the Harter act. *The Merida*, 107 Fed. Rep. (U. S.) 146.

THE STEAMERS CITY OF ERIE AND TASHMOO.



The Cleveland & Buffalo Transit Co.'s steel steamer *City of Erie*, built at the Wyandotte yards of the Detroit Dry Dock Co. Launched February 26, 1898. Hull dimensions, 324 feet in length and 78 feet extreme width. Engines, Fletcher's compound beam type, high pressure cylinder, 52" diameter, 8 ft. stroke; low pressure cylinder, 80" diameter, 12 ft. stroke. Steam is supplied by 6 Scotch type boilers, diameter 12 ft., length 12 ft. Allowed a working pressure of 130 pounds. Licensed to carry 3,000 passengers.

that of the common steam crane with ordinary side frames, post, jib and gearing. The post is usually fixed in a center bed, or base, bolted between, and on the main girders, and the crane slews around on it. The jib may, or may not, have derricking arrangements. The crane is almost invariably set at one end of the gantry beams, and but rarely in the center, so that the jib shall overhang the end to the fullest extent, while, when slewed around, its load can be deposited on trucks on a railway line between the span. Such cranes frequently have jibs of great length. The single term gantry is applied to any overhead bridge or cantilever on which a trolley runs. Thus, a shipping gantry is used for hauling materials over ships or barges for transportation. A block-loading gantry is a structure of this kind used in harbor work.

Features which are possessed in common by goliath and gantry cranes are portability, and the leaving of a clear, open way between the supporting end-framings. The special value of these types consists in the combination of these features. Of the two, however, the goliath cranes have the larger range of service, and there are greater differences between the true goliaths than exist between these and the gantry, or dock cranes. The construction of portable goliath cranes would not, at first, seem to offer much scope for variation in design. Nevertheless, many differences are found. This is due to the extensive and varied services to

cence of the cataract has been decreased to a degree noticeable to any except the most careful observers. Just the same, the falls are doomed as falls, and a few generations hence, if there are any sentimentalists left then, they will look with sorrow on a large, dry wall of rock which no man now alive has ever seen. Of course the change will be lamentable in some respects, but the cost of preserving the cataract as it is would be so enormous that the thought of paying it must pass away. The history of St. Mary's Falls will be equally as positive, while the current at the mouth of St. Clair river is already being figured upon for utilization.

The Criterion, Buffalo, N. Y., in a recent issue, referring to a well-known officer of the army, says: "Major Thomas W. Symons, Corps of Engineers, U. S. A., one of the directors of the Pan-American Exposition, was chairman of the committee on opening day ceremonies, and it was largely to his good judgment and tact that the successful opening exercises at the exposition were due. He has charge of all the government engineering work in western New York, and his services were invaluable in solving the engineering problems confronting the management in the selection of a site. Major Symons has served the government in many responsible positions. He has been chief engineer of the department of the Columbia, and has been on the staff of Lieutenant General Miles and the staff of General Howard. For several years he has had charge of the federal work in the rivers and harbors of New York state, and was appointed by Governor Roosevelt a member of the Erie Canal Advisory Board."



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CLEVELAND, O., MAY 30, 1901.

CANALS BETWEEN THE LAKES AND NEW YORK.

The American Society of Civil Engineers contribute this month their full quota of facts in presenting the subject of the economic dimensions for a waterway from the lakes to the Atlantic, or rather the most available point on the Hudson river, as all points in the discussion tended thereto.

The most eminent engineers in the country commented upon and freely discussed the papers submitted by Joseph Mayer and George Y. Wisner and the facts brought forward amply demonstrate both the feasibility and advisability of constructing an adequate waterway for more modernized tonnage to carry on the vast trans-continental commerce of the near present and future.

In the very able paper presented by George Y. Wisner, Esq., it is stated that plans and estimates have been made for regulating works to control the level of Lake Erie, and for constructing waterways 21 feet and 30 feet deep through the channels of the Great Lakes and from the lakes to the Atlantic.

Referring to the estimated cost of 21 and 30 feet waterways from the lakes to the seaboard, the latter will cost \$100,000,000 more than the former, not including the cost of improving terminal harbors. The difference in expense for operation, maintenance and repairs will be about \$550,000 per year, making the fixed charges for a 30-foot waterway, including the improvement and maintenance of lake harbors, nearly \$5,000,000 greater than for one of 21-foot depth. It is further shown that, taking the cost of improvements into consideration, the commerce of the lakes can be transported more economically with channels of 21 feet in depth than with deeper ones, and therefore, whatever advantages are to be derived from a 300-foot waterway from the lakes to the Atlantic must come from developing new industries and commerce by direct trade between the lakes and foreign ports.

Since the interests of the steel and shipbuilding combines, also the general commerce, would be equally well subserved by either waterway, it is difficult to conceive of conditions which would warrant the large expenditure necessary to construct a waterway of greater dimensions than required for safe and economical navigation on the lakes.

Almost any transportation rate may be deduced for the routes of different depths, by varying the assumed speed in restricted channels and the time lost by detention at terminal ports. If, however, the dimensions of the channel be such as to allow economical speeds for the type of vessel adapted to their use, there need be no trouble in establishing these elements of the problem within reasonable limits, as the average speed at which canal barges can be towed is pretty well known and the safe speeds of steam-ships in the restricted waterways of the Great Lakes and in the ship canals of Europe furnish data from which the ratio of cross-section of channel to that of ship may be determined, which will give a minimum rate of transportation and in this connection

it is estimated that a 21 foot waterway, having a cross-section of 5,500 square feet area or about six times the mid-ship section of a ship would allow safe speeds of 8 to 10 miles per hour with the same consumption of fuel required in open water; furthermore, it has been found from actual observations of the speeds of steamers on the lakes that a vessel capable of averaging 12.5 miles per hour in the deep water of the open lakes is retarded about 16 per cent. or 2 miles per hour, when steaming with the same boiler pressure and only 2 feet of water under her keel.

When the lake channels are improved so as to allow the passage of ships of 19 to 20 feet draft, the cross section of the St. Clair Flats canal will be about six times that of a loaded vessel, and the mean back flow due to the movement of the ship about one-fifth of the speed of the steamer. It is apparent, therefore, that where the cross-section of the waterway is less than six times that of the passing ship the speed will be retarded at least one-third of that which could be maintained in open water.

COMPASS DIAGRAMS IN DEMAND.

With the advent of the second proposed improved form of compass card diagrams emanating from the Hydrographic Office, U. S. N., Bureau of Equipment, having in view the adoption of numbers instead of letters, as relating to courses and bearings, now comes along a Capt. Brinkworth, dockmaster at Gloucester, England, with another system of fog signaling by compass terms, according to the old and present readings.

Unlike so many other things, it is so easily demonstrable (on paper), that course, direction, speed, audibility and even intentions can all be assured, that we are not at all surprised at the latest freak (of which we have seen several) brought forward on this subject, and we are quite prepared for a strenuous advocate to spring up any day with the assurance that there is nothing to beat the old time calliope as used on Southern rivers and more markedly so at present in circus parades.

Now, as regards this latest plan of conveying important intelligence during a dense fog between moving bodies, under varying weather and geographical conditions, Capt. Brinkworth's system seems to be at least well worked out and shows very clearly, also perhaps nicely, in the compass card diagram.

In place of simply drawing attention to his signals in the ordinary way, he has introduced a compass card of the usual type, having on each of the 32 points the signals to be made by blasts, long or short, on the fog horn, whistle, or siren, to represent the particular point. The signals are shown very conspicuously in the black of the compass point as white bars, long or short, according to the length of the blast required. No mistake can be made, and if the marking of the card is carried out on all compasses, it is asseverated that confusion would be avoided. The number of blasts vary from two to five, but there is no sequence so far as numbers are concerned, in the quadrants, or cardinal points, and in this feature the new idea varies to some extent on what has been brought forward previously.

We leave it to the average reader to imagine how the adoption of a steam calliope would further the safety of life and property at sea when vessels were enveloped in a dense fog. At the same time we give the assurance that not column upon column but volume after volume has been printed and circulated regarding sound system of signalling during thick weather, the aberration of the audibility of sound, the penetrative power of different tones of sound as well as volume, as well as the best method of controlling or directing same.

LIFE-SAVING medals for heroic acts of personal bravery are now being clamored for on all sides, and the Act of Congress empowering the awarding of same is likely to be brought to light if the efforts of Congressmen representing lake districts are to count for anything. These medals certify to a national recognition as opposed to the glorification of a departmental individual of note. It's so long though since any act of heroism on the lakes has been recognized that but few know what the several grades of awards are like.

THE thanks of the RECORD are herewith tendered the Board of Trustees of "Webb's Academy and Home for Shipbuilders" for their kind invitation to be present at the Fifth Annual Commencement on Thursday afternoon, June 6, at the Institution, Fordham Heights, New York City.

SAILORS' PRELIMINARY PRACTICE.

"Sailorizing," as formerly known and practiced, apart from the navigational art, is now, as is well known, in its decadence. By the foregoing term we mean more especially the preliminary practice acquired by all youths endeavoring to obtain the "guts" of a sailor, not necessarily that he should chew a bundle of rope yarns and drink a pint of Stockholm tar before reaching that enviable stage of "savee" wherein he can manage to do as he is told, but as an essential to the settling of his mind and aspirations to excel in that walk of life which he has voluntarily chosen and mapped out for himself.

Time was when all youngsters, after the service of a year or so, made it a pride to be able to make ropeyarns almost speak, that is, to assume any form they desired, on the principle that no knot or bend should ever be made to jam, as also that all forms of fancy work were chiefly based on a manipulation of walls and crowns, and that a perfect uniformity must be shown in all styles of plaiting, as for instance, round, square, flat, semi-circular, or rat-tail, corkscrew French, etc., sennets, these to the former youthful sailor were of common knowledge, as were also all sorts of decorative knots on bag and knife lanyards and bell-ropes, while the acquisition of a knowledge of Turk's heads of three or any other number of "strands" was considered worth spending hour after hour to gain.

Having now an ambitious and enthusiastic crowd of juveniles, eager to excel in all of the attributes of thoroughly qualified naval reserve men, and in view of the several prominent lake ports having their own naval reserve drill and practice ships, it should not be out place to give the aspiring Deweys a few lessons in the old time drill, so as to develop a patience of spirit, a feeling of skill and competency and a general handiness in taking hold of a rope, as if they knew what it was composed of and could be made to do as well as to know when it was being punished.

In this connection we note with some degree of interest that a daily newspaper published at an English seaport offers prizes to each competitor who can splice a waterlaid rope with a nine splice, make a four-stranded cringle, rope a sail, and work a becket on a harpoon. It has also been suggested that in addition to the foregoing the test might be carried along as follows:

Make a Flemish eye in a hawser; a man-rope knot; a bucket knot; a double-race knot; a becket on a clothes-line, if required; a short splice, right-handed or left-handed; a short long splice, right-handed or left-handed; a long short splice right-handed or left-handed; point a rope, etc. There are, of course, scores of other things to be made, but the maker of the foregoing can be trusted to handle a marlin-spike well enough to pass upon his ordinary efficiency.

This system of sailorizing drill is not absolutely necessary to accomplish the ordinary make up of a naval militiaman but we should imagine that the young aspirant for naval reserve honors would be put to the blush at confessing his inability to twist ropeyarns or strands into any of the foregoing forms as also would the world renowned Admiral Dewey, U. S. N., just as much as a Nelson, in the older days would have sunk through his boots at a "I can't do it, sir", when told to twist up a few nettles.

It is quite apparent, in these days of steam, clinker chugging, paint washing, brass cleaning, etc., that some preliminary line of study and practical application is essential for the well being and esprit de corps of the naval reserve service, and perhaps a greater development of rope handling including the more modern wire rope, would prove of great advantage to those aspiring to be called a sailor, and this too, without reference to the more inclusive term of seamanship, involving the handling of ships, regarding which space forbids us from even touching upon at this time.

REPRESENTATIVES of the world's most influential daily newspapers are off on another all-around-the-world race. There are seven competitors in all including Le Matin, Paris, the Journal and the World, New York, Chicago American, San Francisco Examiner, one London and one Berlin paper with two reporters sent out by La Presse, Montreal, representing Canada. About 34 days is considered the record time for a trip around the circle, and not, as Jules Verne had it, 80 days.

THE difficulty existent in connection with fog signalling has always been the inability of one steamer indicating her course to another vessel in her vicinity. Schemes have been drawn up for removing this trouble, and very excellent series of sound signals have been presented, but so far without effect.

REVENUE CUTTER SERVICE.

There are some people, no doubt, who may think that the officers on Lake Revenue Cutters hold a departmental snap or sinecure; such, however, is not the view taken by Lieut. Reed of the Fessenden. Among the duties of a revenue cutter on the Great Lakes is the protection of the customs revenue, which in itself is no small matter when it is considered that two boats have the entire frontier to look after.

The Fessenden looks after Lakes Erie and Huron and connecting waters, and the Morrill has charge of Lakes Michigan and Superior and the St. Mary's river. Not only must smuggling be looked after, but vessels must be boarded and their papers examined to see that no dutiable goods are carried without being on their manifest. To the credit of the lake marine it must be said that very few cases of evasion of the revenue laws are found.

Whenever possible revenue cutters are to go to the relief of vessels in distress or need of assistance. This is more of value to mariners on the ocean than on the lakes.

Revenue cutters are charged with looking after the enforcement of the neutrality and navigation laws.

Lake marine interests are more interested in the navigation laws than in any other part of the revenue cutter's duties, as one of the law's provision is broken many times daily during the season of navigation, that is the one regarding speed in certain of the narrow channels, the 800-foot channel in Lake St. Clair in particular being a place where vessels are wont to far exceed the speed limit.

Owing to the large amount of territory the cutters are supposed to cover this evil cannot be looked after as closely as it should be, and last winter steps were taken by Commander Davis, of the Morrill, together with Commander Moore, of the Fessenden, looking to the establishment of a patrol system for the St. Clair river, Lake St. Clair and the Detroit river, but as yet the Department has taken no steps in the matter. The idea was to station men at different points along these waterways to watch the passing boats, and not only to look out for violations of speed limit, but be able to inform vessels of the conditions along the river. Such a system is now in operation in the St. Marys's river, and it is of much benefit in preventing accidents in that district.

AN INQUIRY DEMANDED ON THE SINKING OF A CANADIAN STEAMER.

The sinking of the Canadian owned passenger steamer Empire State in shallow water near Brockville with 600 excursionists on board has raised a public clamor along the St. Lawrence. Feeling has risen to such a point that Mayor Buell of Brockville, Ont., has wired the Canadian Minister of Marine demanding a government investigation, and the Canadian officials have ordered Capt. M. F. McChlinney to make a full and complete official inquiry into the causes leading up to the sinking of the boat.

The Thousand Island Steamboat Co., owners of the Empire State, have invited both Canadian and United States inspectors to examine the hull and make a public statement of the cause of the sinking of the boat which came so near being a horrible disaster. The managers insist that the water came in through open port-holes or dead-lights, and that the hull is perfectly sound.

In permitting the boat to fill with 600 passengers on board, the owners, master and crew must stand in the light of exhibiting gross negligence. However, the findings of the court need not be prejudged at this time.

NO SHIPPING COMMISSIONER FOR CHICAGO.

In reply to a communication from the MARINE RECORD Wm. Penn Nixon, Esq., Collector of Customs, Chicago, states that the Treasury Department has declined to appoint a shipping commissioner at Chicago at present. Mr. Nixon says: "The case, as we understand it here, did not deny but what a commissioner might not some time be appointed provided it was found that it became a regular thing for foreign vessels to leave this port. Our understanding is that the Department considered the present effort of the Northwestern Steamship Co. was simply experimental. If, however, this experiment should lead to a very considerable amount of direct foreign shipping, I believe a shipping commissioner would be appointed here."

Vessel, whether American or foreign, coming from England, even in ballast, are subject to tonnage tax on entry in the United States, if they have been entered or cleared in England, notwithstanding that the voyage to the United States may have commenced at a foreign port not in England.

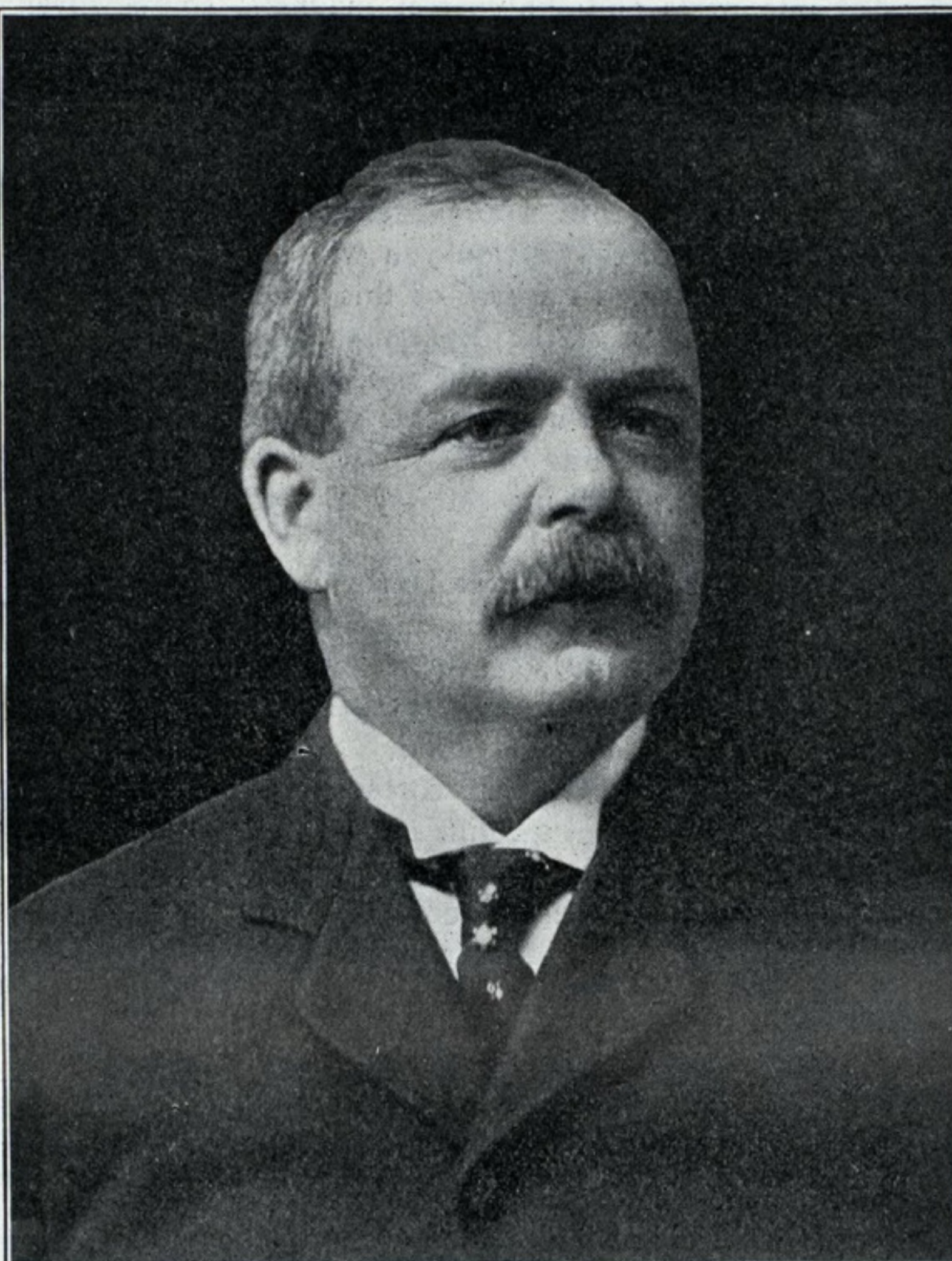
ONE OF THE MOST SUCCESSFUL MEN ON THE LAKES.

The election of Capt. A. B. Wolvin, Duluth, Minn., to a vice-presidency in the United States Steel Corporation, and his appointment as general manager of its large high-classed fleet, which is second to none in the world, marks the pinnacle to which a lake seaman may aspire, or rather has attained.

It would have been difficult for the United States Steel Corporation to have made a wiser or better selection than Capt. Wolvin to handle their immense fleet. His experience as sailor, master, manager, owner and operator of vessels, added to his executive ability, has eminently fitted him for the great responsibility of handling such a fleet.

Capt. Wolvin was elected president of the Lake Carriers' Association at the last meeting of the association, held in Detroit in January. It was thought at the time that the captain had risen from a sailor boy on the lakes to the zenith of his career, but the appointment to the management of the most important fleet on the lakes, extends to him even greater power in the circles of lake marine, also does it closely follow out the recent utterances of Mr. Schwab regarding his views on a collegiate or academic training and education to make possible the acme of success in affairs industrial or commercial.

The fleet now under control of Capt. Wolvin includes



CAPT. A. B. WOLVIN, DULUTH.

what was formerly the Bessemer Steamship Co., the Minnesota Steamship Co., the American Steamship Co., the National Steamship Co., the Pittsburg Steamship Co. and the Mutual Steamship Co., comprising 112 vessels, the carrying capacity of which per single trip is upwards of half a million tons.

TACOMA GIRDLES THE GLOBE.

A new steamship line recently established is to ply between Tacoma and Liverpool via the Suez canal, touching at Manila and Philippine Ports, all the Strait ports and Indian, Arabian, Egyptian, Mediterranean and Continental ports, are named as follows: Glenloch, 8,500 tons; Glenroy, 10,000 tons; Glenlogan, 11,000; Glenturret, 8,500 tons; Glenartney, 4,200 tons; Glengarry, 9,000 tons; Glengyle, 4,000 tons; Glenshiel, 5,000 tons; Glenesk, 5,800 tons. This will constitute the longest steamship line in the world, and by saving the transfer and other charges, it will enable manufacturers, especially of flour, to be placed in all ports at lower rates than heretofore. This new line, in addition to the long established line plying between Tacoma and Yokohama and Hong Kong, and the line between Tacoma and Port Arthur, Vladivostock, and Northern China now gives Tacoma more ships crossing the Pacific than all other Pacific Coast ports combined.

SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS.

The Executive Committee of the Council invites correspondence concerning papers to be read at the Ninth Annual Meeting in November next. It is quite important that papers should be in print 30 days before the meeting so that they can be distributed in advance. Members who desire to submit papers or who have suggestions to make are requested to communicate with the Secretary at their earliest convenience.

A member of the Council has offered a prize of one hundred dollars (\$100.00), for the best paper upon the subject of "The Theoretical and Practical Methods for Balancing Marine Engines." Papers submitted in competition for this prize must be sent to the Secretary before October 1st, and should be plainly addressed and marked in one corner "For Prize Competition," and underneath the motto or other distinguishing title of the sender. In a sealed envelope similarly addressed, should be enclosed the name of the sender and his motto or distinguishing title.

Further information on the subject of papers to be read at the Ninth Annual Meeting will be furnished on application to the Secretary, W. L. Capps.

At a special meeting of the Council of the Society held in New York on March 29, 1901, the following resolution was adopted:

"The secretary and treasury of this society having tendered his resignation because of duties at Washington incident to his advancement to the rank of Chief Constructor of the Navy, and said resignation having been accepted.

Resolved, That the Council hereby places on record this acknowledgement of its many obligations to Rear Admiral Bowles for his able and efficient services to this Society as chairman of the executive committee of the Council from the date of the Society's organization and as its secretary and treasurer during the past five years; and the council desires especially to note its satisfaction that this merited promotion assures the continuance of the highest standard in the design, building and equipment of our ships of war."

To fill the vacancy caused by the resignation of Rear Admiral Bowles, the president begs to announce the election of Naval Constructor W. L. Capps, U. S. N.

CLEMENT B. GRISCOM, President.

CASUALTIES.

It now seems beyond a doubt that the derelict which has been floating around all week on Lake Michigan, is the schooner H. Rand, of Racine, and if so she has taken all hands with her.

The crew consisted of Capt. Ralph Jefferson, owner and master, Racine, aged fifty-one years; Daisy Jefferson, his daughter, stewardess, aged twenty-eight years; Frank Seabert, of Sheboygan, seaman, aged twenty-seven years; Harry Lucas, of Milwaukee, seaman, aged twenty-one years. Both of the sailors were unmarried. Capt. Jefferson has owned and sailed the Rand for several years.

The schooner loaded hardwood slabs at Coyne, Mich., and cleared just before the gale commenced. She was consigned to Milwaukee. Capt. Jefferson leaves a widow, two sons, and a daughter, besides the one drowned. Mrs. Jefferson has given up all hope of the rescue of the crew. Up until Tuesday it was thought that the drifting derelict was the schooner C. H. Hackley, but she has been heard from, all well.

The loss of the steamer Baltimore, on Lake Huron, with 12 lives, has been the most serious of the season in life and property. Other losses to date are the Canadian tug Tecumseh, 3 lives, also on Lake Huron; the steamer Bon Voyage on Lake Superior, 4 lives, and the schooner Fostoria at the mouth of St. Clair river, 2 lives, all of the vessels are a total loss also.

It is now proposed to prevent collisions by indicating the nearness of a ship in a fog at sea, or of an iceberg, by means of a heat indicator of great delicacy. It will be remembered that a boat recorded in his physics his invention of a thermopile (an arrangement of two metals for generating electricity by heat) that was sensitive to the heat of a candle held a quarter of a mile away. He also used another instrument which was sensitive to the warmth of a heated penny at a distance of 200 feet. It is only necessary to have a thermopile on each side of the vessel with wires running to bells on the bridge, of which bells, one will ring for a ship, the other for an iceberg. A sensitive galvanometer will also indicate to the eye the nearness of ships or icebergs. Whether these are approaching or receding will, of course, be shown by the increase or decrease of the current as the case may be.



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THE LAW OF MAGNETISM.

A SHORT AND CONCISE LESSON ON MAGNETISM AS IT AFFECTS THE MARINER'S COMPASS.

BY CLARENCE E. LONG, MILWAUKEE.

(Arranged for Masters and Pilots on the Great Lakes.)

CHAPTER VIII.

MAGNETIC VARIATION.

It is very important that the navigator should have a thorough knowledge of the Magnetic Variation. The amount of allowance and its direction, and annual change are indicated on the charts. On all Mercator charts, with the exception of harbor charts, will be found irregular lines running from the top to bottom of the paper in a north-westerly and southeasterly direction, and having beside them such inscriptions as 5 deg. W., 8 deg. E. This means that along this line the Variation of the compass from true north is W. 5 deg., 8 deg. E. There are certain lines, which have no Variation, and here no allowance is to be made. There is one such line in the region of the Great Lakes. It passes through the east end of Lake Superior, thence across the Straits of Mackinac down through central Michigan. This line is called the "Line of No Variation." All places to the east of this line of no variation the variation is westerly, and all places to the west it is easterly. Westerly variation is increasing and easterly variation is decreasing, or in other words the line of no variation is moving west. On harbor charts the variation is shown by the compass card printed on the chart. The north point of it will be found slewed a little to the eastward or westward of a meridian line. On all Mercator charts, inside of each compass rose will be found an inscription such as "Var. 8 deg. E. in 1898; decreasing 5 min. annually." On the charts published by the Engineers' Dept., you will find a table of Magnetic Variation, or Declination, giving the variation for the different localities with the annual increase and decrease.

ANNUAL CHANGE IN THE VARIATION.

A knowledge of this is very important, as in many parts of the world it is very rapid, and after a few years the correction becomes quite a consideration. Masters are not always acquainted with this peculiarity of terrestrial magnetism, and, in consequence, give courses which were the correct thing years ago, but are so no longer. It is evident, from what has just been stated, that correct magnetic courses given in sailing directions need revision in a comparatively short time. A man with a chart and possessed of the above knowledge, does not require such dry nursing.

TO ALLOW FOR VARIATION BETWEEN DEPARTURE AND DESTINATION.

To apply the Variation to a True Course, to obtain a Correct Magnetic Course, between a point of departure and a point of destination add the two Variations together if they have like names, that is, both east or both west, and take the mean of the sum by dividing by 2. The quotient will be the proportional variation to be applied to the true course between the two points. For example:

Variation at Chicago..... 2° 49' E.

Variation at Twin River Pt..... 2° 15' E.

2) 5° 04'

Variation to be applied..... 2° 32' E.

The above method of applying the Variation may be used where there is ample room, but on long routes where the Variation changes rapidly, to apply a single correct magnetic course to be steered all along the line, might lead to dangerous results. Long, straight routes should be subdivided into parts and the correct magnetic course given for each part.

However, on most lake routes it is practicable to take the mean of the two variations. Remarks:—If the variation at departure was easterly and westerly at destination what would that indicate? It would indicate that in order to reach your point of destination you will have to cross the line of no variation. In a case of this kind just take one-half of the variation at the departure and apply it to the true course and this will give the proportional variation between the starting point and the line of no variation. When you have crossed the line of no variation take one-half of the variation at destination and apply it to your true course. For example:

The true course from Copper Harbor to Whitefish Point is E. by S. $\frac{1}{2}$ S., distance 145 statute miles. The line of no variation crosses this course at a point 30 miles from Whitefish Pt. The variation at Copper Harbor is 2 deg. 16 min. E., one-half of which would be 1 deg. 8 min., equal to $\frac{1}{8}$ of a point, nearly, and giving the correct magnetic course to be E. by S. $\frac{3}{8}$ S. From the line of no variation to Whitefish Pt. the variation is westerly, being 2 deg. 20 min. at the latter place, and one-half of this would be 1 deg. 10 min., equal to $\frac{1}{8}$ of a point, nearly. At the line of no variation the course would have to be shifted to the right that much, or E. by S. $\frac{1}{2}$ S.

TO CORRECT FOR ANNUAL CHANGE IN VARIATION.

To correct the Variation for the annual change multiply the number of years that have elapsed since the chart was corrected. Remember, that easterly variation is decreasing and westerly is increasing; therefore, when correcting easterly variation subtract the annual change, and westerly add it. For example: The Variation at Chicago in 1898 was 2 deg. 49 min. E., annual change 4.7 min. What will the correct variation be in 1900?

Variation at Chicago 1898..... 2° 58.4' E.

Decreasing annually 4.7', 2 years... 9.4' (subtract)

Correct Variation at Chicago 1900... 2° 49.0' E.

Example:—If the annual change in the Var. is 5 min., how many years will it take to effect the Var. 1 deg.? Ans. 12 years, because in 1 deg. there are 60 min. and 5 min. is contained in 60 min. 12 times, or 12 years.

OPPOSITE AND REVERSE.

Do not get the terms "opposite" and "reverse" as applied to the compass mixed up with each other. Mariners, generally, are a trifle out of their latitude on this seemingly "knotty" subject; but there is no reason for confusion as there is a marked distinction between the two terms. The average person will use reverse and opposite as meaning one and the same thing in speaking of the directions on the compass, or horizon, as for instance, they will tell you that SE. is opposite NW., but this is not so, the opposite of SE. is SW. and NW. is the reverse of SE. For an example, we will take the sun. Now, the sun always sets in an opposite direction to that of its rising, that is, if it rises at E. by N. it will set at W. by N.; the azimuth remaining the same from north or south for rising and setting.

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CONCLUSION.

When I started it was not my intention to write more than one-fourth of what I have, but were it not for the lack of space I might write ten times more on this important subject. As I said before, an exhaustive inquiry into this important matter would require a good sized volume, therefore, it is impossible to treat it in a work of this kind, and I trust that no one will expect it. My idea in taking this short preliminary canter round the outskirts of the subject is to call attention to some of the most important details appertaining to the adjustment of compasses and the laws of magnetism.

Yours very obediently,

CLARENCE E. LONG,

Scientific Compass Adjuster, Principal Milwaukee Nautical School, 140-142 Reed, St., Milwaukee, Wis.

VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo.....	3,508,000	892,000	824,000	16,000	479,000
"afloat.....					
Chicago.....	7,616,000	5,975,000	2,899,000	188,000	155,000
"afloat.....					
Detroit.....	211,000	147,000	1,000	5,000	2,000
Duluth.....	6,013,000	3,549,000	1,180,000	259,000	44,000
"afloat.....					
Fort William, Ont..	1,581,000				
Milwaukee.....	517,000	682,000	344,000	18,000	16,000
"afloat.....					
Port Arthur, Ont..	148,000				
Toledo.....	198,000	413,000	189,000	1,000	1,000
Toronto.....	50,000		1,000		60,000
On Canals.....	473,000		355,000	105,000	19,000
On Lakes.....	2,751,000	1,095,000	161,000	15,000	31,000
On Miss. River.....	90,000				
Grand Total.....	40,664,000	15,320,000	10,438,000	699,000	1,061,000
Corresponding Date, 1899.....	44,755,000	12,687,000	6,786,000	1,067,000	944,000
Increase.....					143,000
Decrease.....	2,434,000	593,000	286,000	163,000	

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

ANENT the recent transfer of the Leyland Line of steamers to the J. P. Morgan syndicate, a joke used to be told on a Liverpool reporter. The Leyland Co was the first firm to build 4-masted, 400 feet, flush decked, iron steamers for the Mediterranean trade. It so happened that several of these boats, inward and outward bound, were lying in the river Mersey at one time, and the reporter, to be briefly truthful, reported half a mile of arian's in the river, the names of the vessels in the fleet all ending with—ian. A tow of 400 foot steel vessels was strung out abreast of Cleveland last week having a gross register tonnage of 20,000 and an easy dead weight carrying ability of 30,000 tons, as follows, the steel steamer General Orlando M. Poe, with barges John Fritz, John Smeaton, W. Le Barron Jenny and the Alfred Krupp, built for, and formerly owned by the Bessemer Steamship Co. (Rockefeller Line), and now in the syndicate of the United States Steel Corporation, known as the Pittsburgh Steamship Co. This string of floating steel warehouses, fairly in line, with taut hawsers monopolized about 4-5 of a mile of lake frontage, the Krupp was dropped at Cleveland, and the rest headed for Lake Superior.

NOTICE TO MARINERS.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT HOUSE INSPECTOR,
TENTH DISTRICT, BUFFALO, N. Y., May 23, 1901.

MAIN CHANNEL ABOVE STRAWBERRY ISLAND, NIAGARA RIVER.—Notice is hereby given that on May 10, 1901, a 25-foot spar buoy painted red and numbered 4½ was established to mark the lower end of the Twelve Foot Shoal in Main channel above Strawberry Island, and about 1,000 feet below Buoy No. 4 on the west side of the river and opposite Emerald Channel.

NIAGARA RIVER.—Notice is hereby given that on May 18, 1901, a 20-foot spar-buoy painted with red and black horizontal stripes was established to mark the shoal in Niagara river at the lower end of Navy Island.

By authority of the Light-House Board.

A. DUNLAP, Commander, U. S. N.,
Inspector 10th L. H. District.

UNITED STATES OF AMERICA—NORTHERN LAKES AND
RIVERS—NEW YORK.

TREASURY DEPARTMENT,
OFFICE OF THE LIGHT-HOUSE BOARD,
WASHINGTON, D. C., May 23, 1901.

BIG SODUS LIGHT STATION—BIG SODUS OUTER LIGHT.—Notice is hereby given that, on or about June 10, 1901, the order and characteristic of the light on the outer end of the west pier, entrance to Big Sodus Bay, southerly shore of Lake Ontario will be changed to fourth order fixed white varied by a white flash every two minutes.

The structure has been increased in height 15 feet. The focal plane of the light will therefore be 47½ feet above mean lake level, instead of 32½ feet as heretofore, and the light should be seen 14¼ miles in clear weather, the observer's eye 15 feet above the water.

BIG SODUS LIGHT.—On the same date, this light (fixed white varied by a white flash every two minutes) at Sodus Point, on the bluff on the southerly shore of Lake Ontario, ½ mile westerly of the entrance to Big Sodus Bay, will be permanently discontinued.

By order of the Light House Board.

N. H. FARQUHAR,
Rear Admiral, U. S. Navy, Chairman.

UNITED STATES OF AMERICA—NORTHERN LAKES AND
RIVERS—MICHIGAN.

TREASURY DEPARTMENT,
OFFICE OF THE LIGHT-HOUSE BOARD,
WASHINGTON, D. C., May 27, 1901.
DETOUR LIGHT STATION.

Notice is hereby given that, on and after June 10, 1901, whenever it is foggy on Lake Huron off the entrance to Detour Passage and the St. Mary's river, with clear weather inside, the fog signal at this station will sound alternate blasts of 8 and 3 seconds' duration separated by alternate silent intervals of 2 and 47 seconds, thus:

Blast	Silent interval	Blast	Silent interval
8 sec.	2 sec.	3 sec.	47 sec.

When it is thick or foggy both inside and outside of Detour Passage, the signal will sound the same as heretofore, blasts of 8 seconds' duration separated by silent intervals of 52 seconds, thus:

Blast	Silent interval	Blast	Silent interval
8 sec.	52 sec.	8 sec.	52 sec.

The station is located on the westerly side of the entrance to Detour Passage and the St. Mary's river, northerly end of Lake Huron.

By order of the Light-House Board:

N. H. FARQUHAR,
Rear-Admiral, U. S. Navy, Chairman.

DOMINION OF CANADA—ONTARIO.

SHOAL OFF BLACK ROCK, PARRY SOUND.—Information has reached this Department that the steamer Arthur Orr struck on an uncharted pinnacle, having 15 feet water on it,

with 10 fathoms close around on all sides, opposite Black Rock, in the entrance to Parry Sound, east shore of Georgian Bay, Ontario. The danger is practically on the alignment of the Jones Island range lights.

A spar buoy will be placed on this heretofore unknown shoal at once. Until it can be definitely located deep draught vessels are warned to be careful in passing the locality.

CHANGE IN SUPERSTRUCTURE OF SEGUIN BANK GAS BUOY.—The gas buoy maintained on Seguin Bank, off the entrance to Parry Sound, Georgian Bay, was, on the opening of navigation this year, changed from conical to can in character by modifying the shape of the slatwork superstructure. The buoy with its cage is as heretofore painted black, and is surmounted by a red lantern, showing a white light occulted every six seconds.

POSITION OF WRECK OF ST. ANDREW IN LAKE SUPERIOR.—Capt. N. Marin, Port Arthur, on the 4th January last reported to the United States Branch Hydrographic Office at Duluth, that the wrecked steamer St. Andrew lies stranded on a small islet of the Great Shaganash group of islands, eastward of the southeastern entrance of Black Bay, Lake Superior. This islet and the surrounding rocks awash are described on the Admiralty chart as amygdaloid rocks.

Approximate position, latitude 48° 24' 50" N., longitude 88° 28' 30" W.

The largest island of the great Shaganash group is called Big Shaganash Island, and the large island immediately south of it is called Blanchard Island.

The islet on which the St. Andrew was wrecked is about 500 yards southeastward from the southeast extremity of Blanchard Island.

The St. Andrew lies in about 30 feet of water and is a total wreck.

STAG ISLAND SHOAL LIGHT CARRIED AWAY.—The pole and shed, standing on a pile foundation, on the south end of Stag Island shoal, River St. Clair, from which a lens light was shown, as described in Notice to Mariners No. 52 of 1900, have been carried away by the ice.

A temporary fixed white lens lantern light will be shown from a boat, float or pole, on the site of the destroyed structure as soon as possible, of which further notice will be given.

The red and black horizontally striped spar buoy, previously maintained on the end of the shoal in the vicinity of this light, was permanently discontinued by the United States Government in December last.

WRECK OF SCHOONER FONTANA AND WRECK MARKS REMOVED.—With reference to Part XII of Notice to Mariners No. 90 of 1900, the wreck of the schooner Fontana, at the head of the River St. Clair, near Fort Gratiot light, having been removed, the buoy marking the wreck has been discontinued, and the three piles driven in Canadian waters, to mark the 18-foot curve between the wreck and the eastern bank of the river, have also been removed.

PRIVATE RANGE LIGHT AT SAUGEEN RIVER.—A fixed green light has for one or two years past been maintained by the local fishermen upon the north bank of the Saugeen river, north of the town of Southampton, east coast of Lake Huron. It is situated E. ¾ S., 700 feet from the Government light upon the pier at the entrance to the same river. The light is 45 feet above the water and is hoisted on a mast 15 feet high, surmounting a white slatwork beacon 10 feet high.

The two lights in line, E. ¾ S., lead through the narrow dredged channel, in 8 feet most water, up to the end of the pier, which vessels must leave on the port hand when entering, and gradually steer for the south bank of the river to the wharves. This private light is exhibited only during the fishing season, and the Government assumes no responsibility for its maintenance.

Fraudulent Conveyance.—Under Rev. St. U. S. §§4170, 4192, providing that no bill of sale, mortgage, or hypothecation, or conveyance of any vessel, shall be valid, except as between the parties thereto, unless recorded in the office of collector of customs, an oral gift of a vessel is not sufficient to pass title thereto as against the creditors of the giver. *Palmer vs. Smith*, 85 N. W. Rep. (Mich.) 870.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising or setting will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset, by reversing the east bearing given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting. The bearing may be taken when the Sun's center is on the horizon, rising or setting. The elements which may be obtained by taking these amplitudes are the quantities known as local attraction, variation and deviation, or the total difference between compass and true, or geographical bearings.

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Date.	Amplitude.	Bearing P'ts.	Bearing Comp.
May 30.....	E. 30° N. = N. 5¼ E. = N. E. by E. ¼ E.		
June 5.....	E. 31° N. = N. 5¼ E. = N. E. by E. ¼ E.		

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.

Date.	Amplitude.	Bearing P'ts.	Bearing Comp.
May 30.....	E. 31° N. = N. 5½ E. = N. E. by E. ½ E.		
June 5.....	E. 32° N. = N. 5½ E. = N. E. by E. ½ E.		

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Date.	Amplitude.	Bearing P'ts.	Bearing Comp.
May 30.....	E. 32° N. = N. 5½ E. = N. E. by E. ½ E.		
June 5.....	E. 33° N. = N. 5½ E. = N. E. by E. ½ E.		

LAKE SUPERIOR, LAT. 48° N.

Date.	Amplitude.	Bearing P'ts.	Bearing Comp.
May 30.....	E. 34° N. = N. 5 E. = N. E. by E.		
June 5.....	E. 35° N. = N. 4¾ E. = N. E. ¾ E.		

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

THE Light-House Board has approved the plans for a steamer to be built for the use of the engineer of light-house construction with headquarters at Milwaukee, Wis. Plans for the boat call for about \$115,000, and bids will be asked from the lake shipyards in about a week. Efforts will be made to have her constructed on the lakes, but if the figures demanded are not satisfactory to the light-house officials, the coast builders will be invited to bid on the contract. The plans for the boat were drawn by Capt. Warren.



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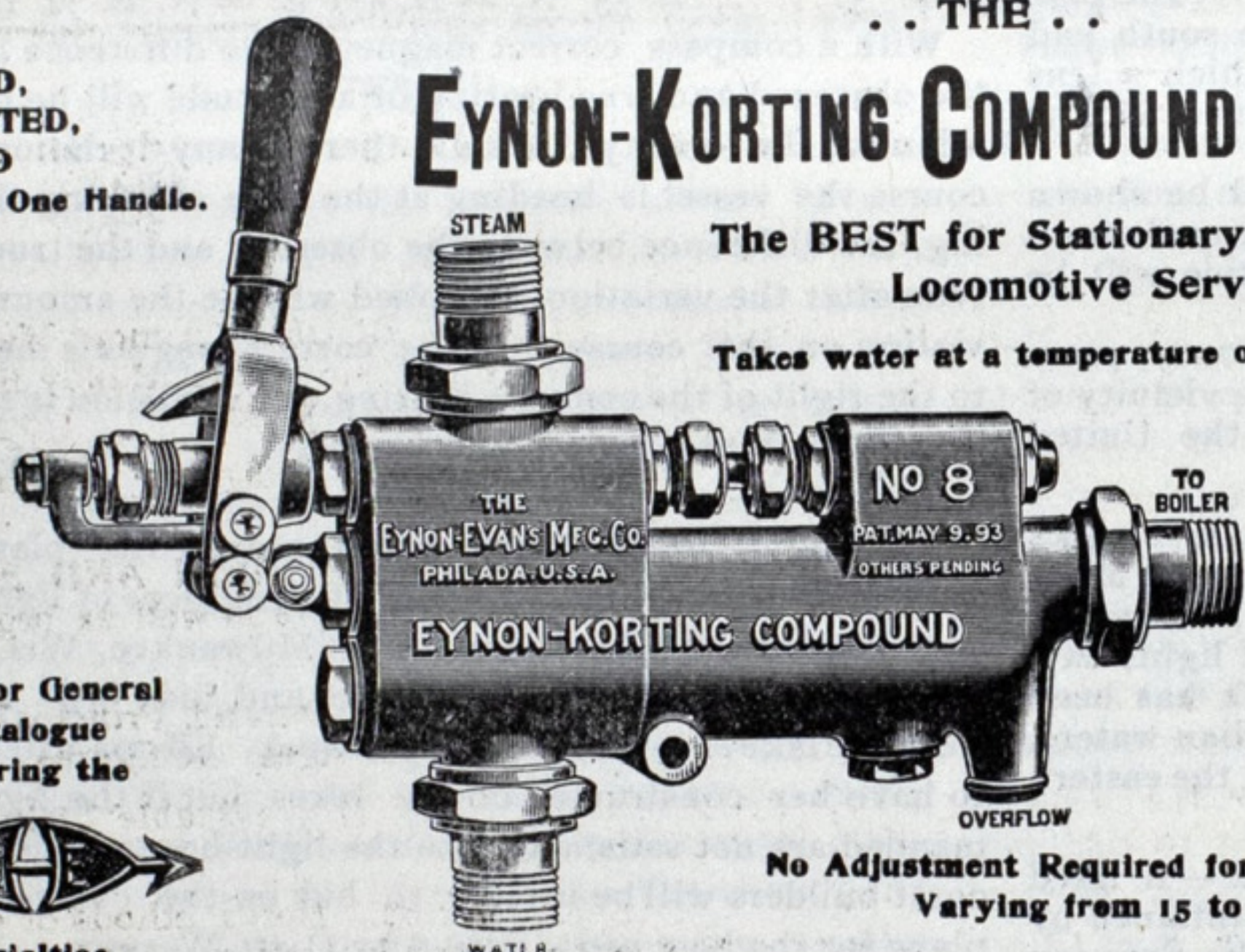
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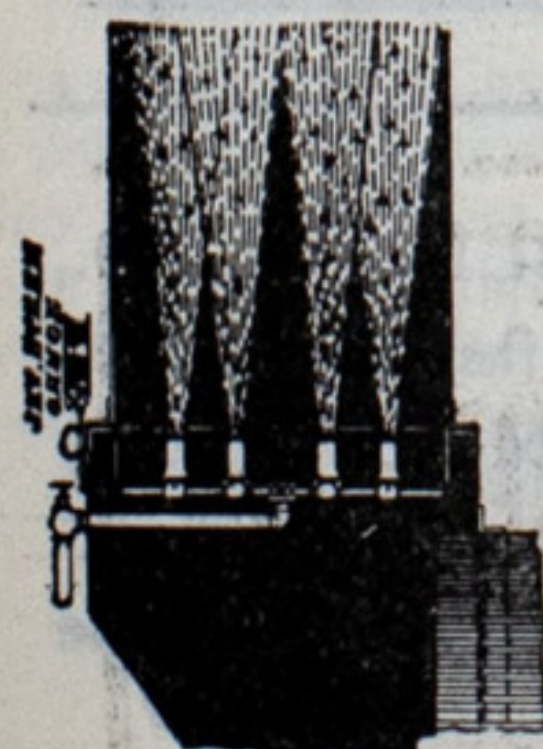
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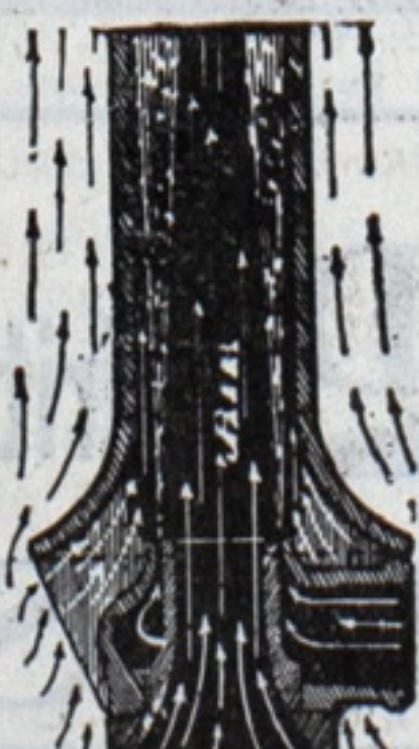
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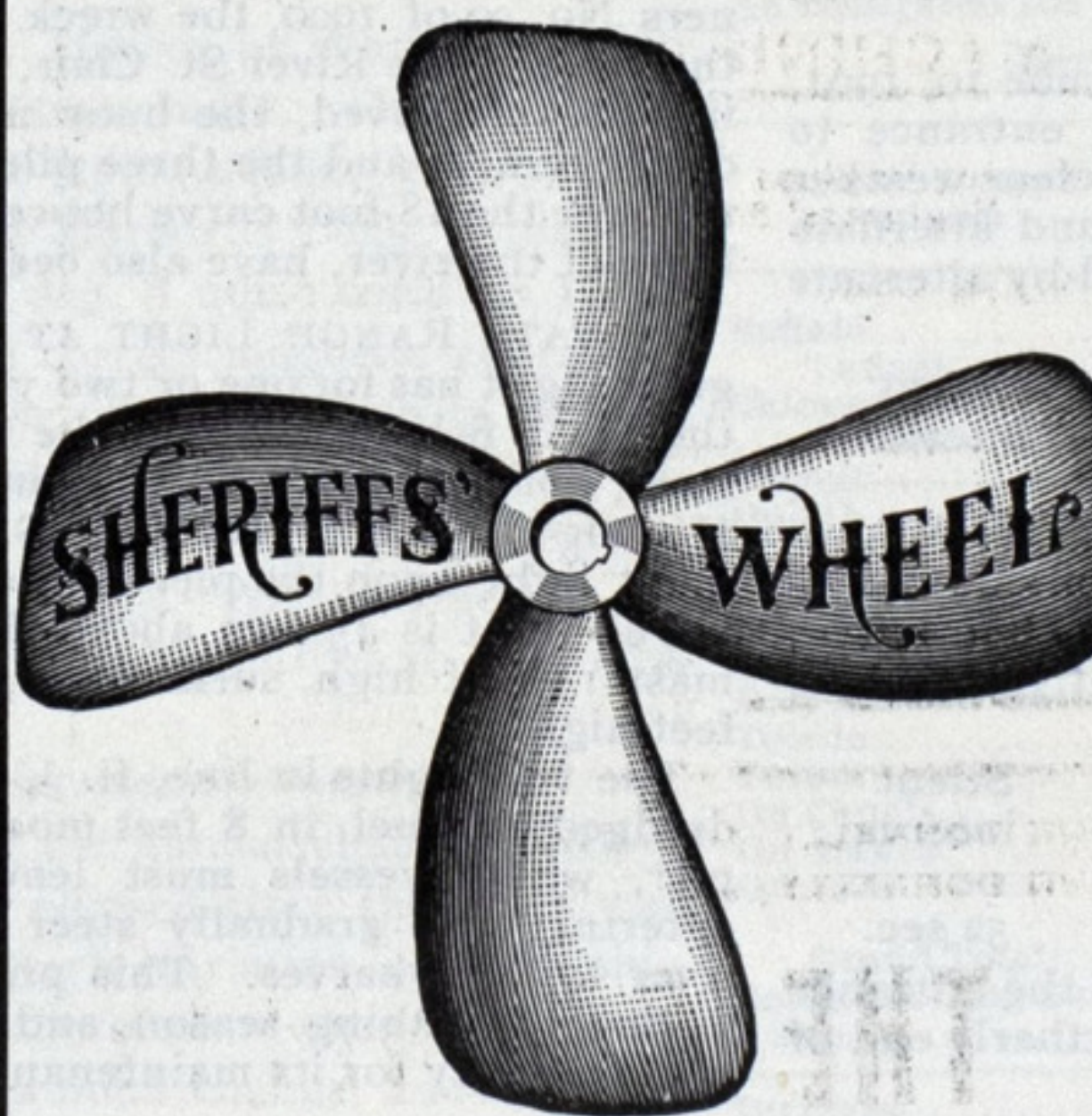
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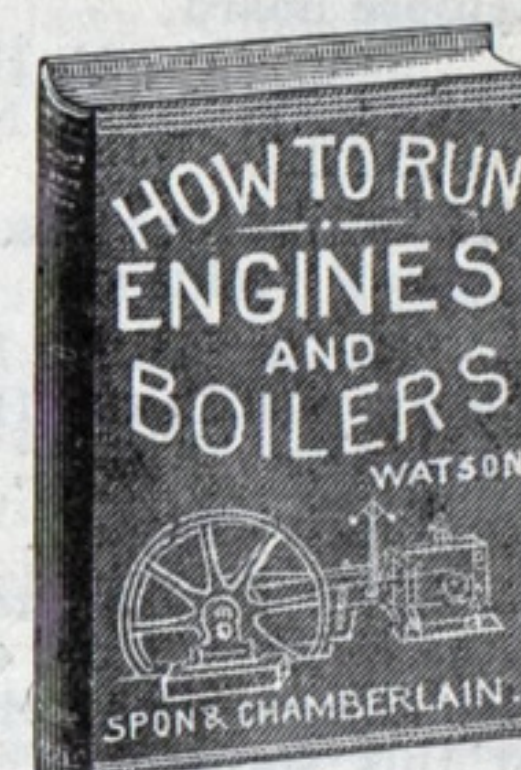
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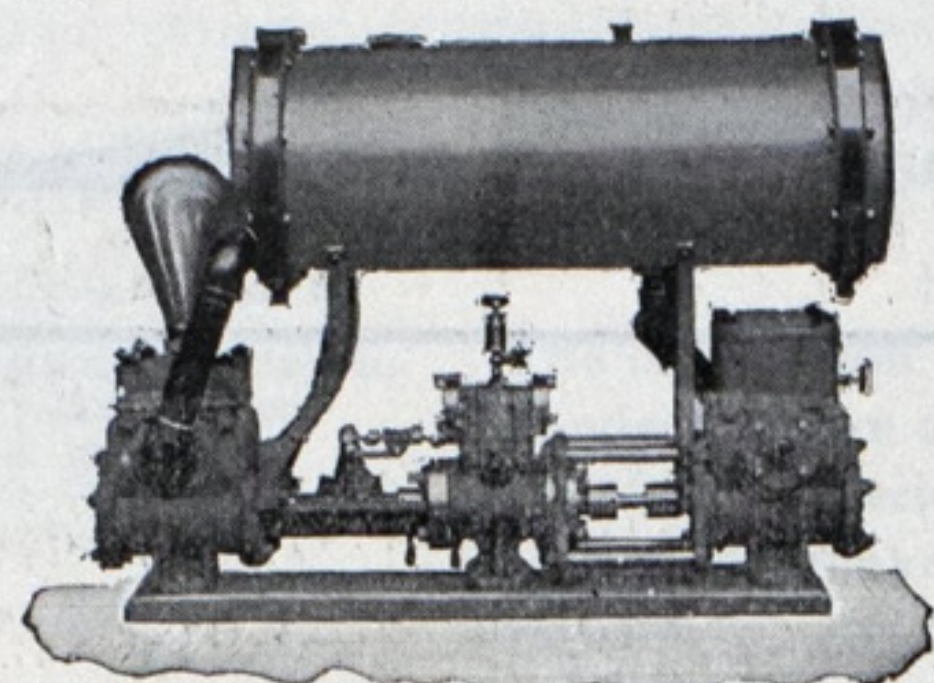
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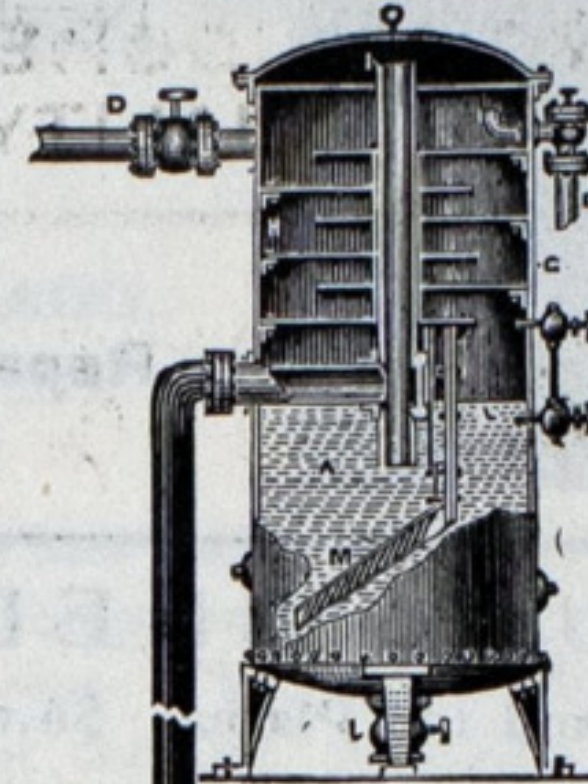
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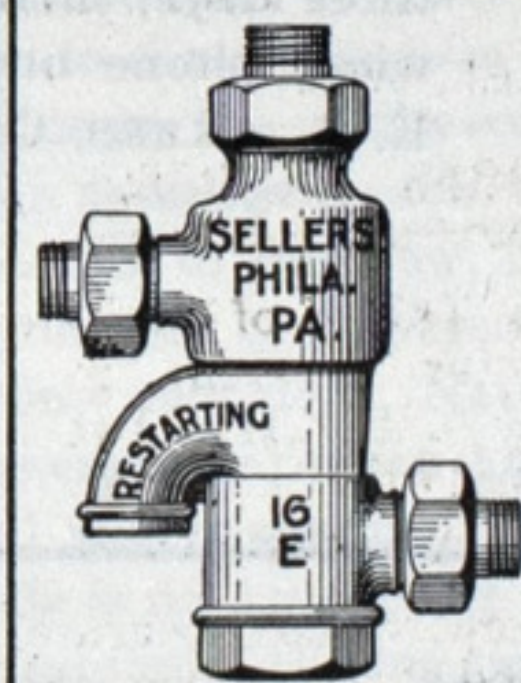


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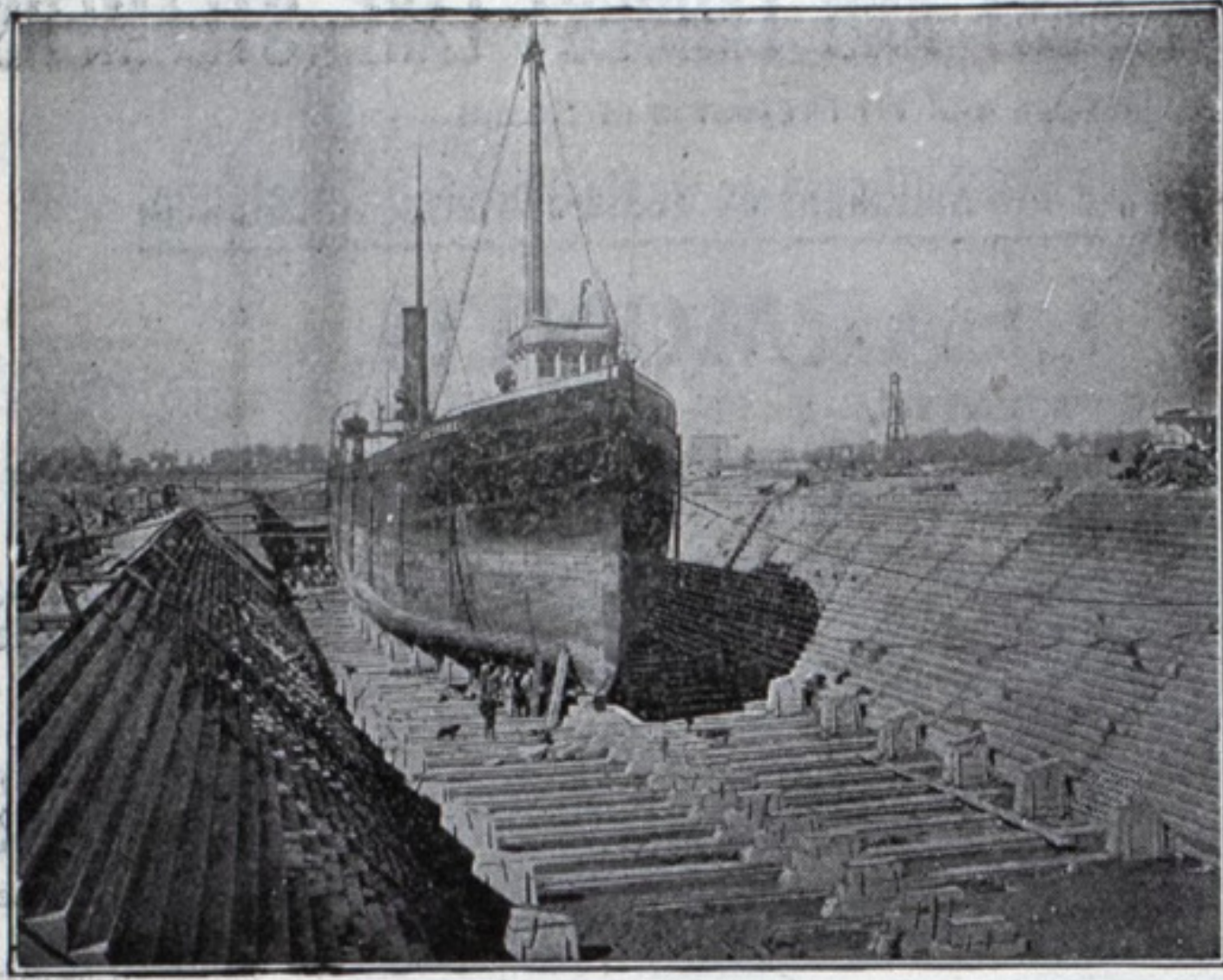
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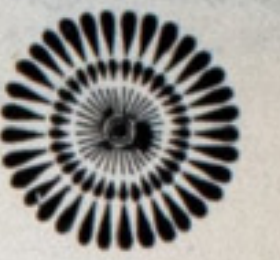
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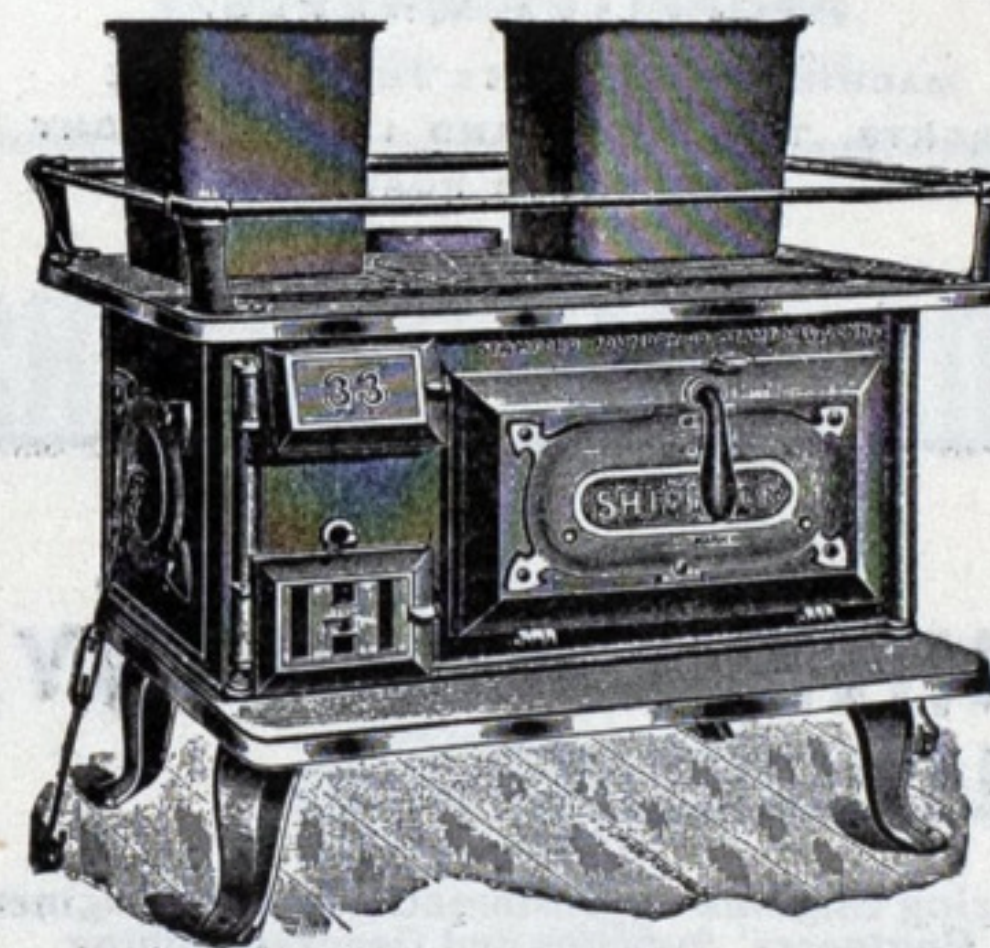
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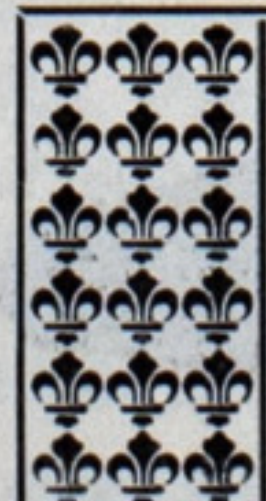
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